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ABSTRACT

The career education project conducted by the Mesa (Arizona) Unified School District was designed to develop a written objectives-based Model Accountability System (MAS) that identifies terminal career education behaviors according to several themes, specifies assessment items for each objective, and provides a monitoring system and mastery profiles for the individual student, class, school, grade, and district (K-12). The project was also designed to document and critique the development phases of the MAS and to demonstrate that MAS users have a positive attitude toward its further implementation. The activities consisted of developing, for each grade, the following: (1) a conceptual and sequential framework; (2) a comprehensive matrix of viable goals and objectives; (3) representative and validated assessment items; (4) formats for the display of test data; (5) instrumentation and procedures for the pilot testing of the model and system; and (6) a measure for assessing the attitude of participants. Data supporting each stage of development was collected, arranged for display in charts and tables, and incorporated in further revisions. (This document contains the final performance report, covering project activities, objectives, participants, evaluation, results, anticipated changes, dissemination, and special activities. A major portion of this document contains related forms and survey instruments and data. A companion document, CE 020 347, contains the assessment materials.) (Author/BM)

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MESA UNIFIED SCHOOL DISTRICT

CAREER EDUCATION ACCOUNTABILITY MODEL

FINAL PROJECT PERFORMANCE REPORT

November 30, 1978

BEST COPY AVAILABLE

Volume 1 of 2

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Sponsored by
U.S. Office of Education

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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CE 020 346

PREFACE

The work presented and reported herein was performed pursuant to a contract between Mesa Public Schools and the United States Office of Education, of the Department of Health, Education, and Welfare. However, the opinions expressed herein do not necessarily represent the opinions, position, or policy of the United States Office of Education, and no official endorsement by the United States Office of Education should be inferred.

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CAREER EDUCATION ACCOUNTABILITY MODEL

Mesa Unified School District

Final Project Performance Report

I. INTRODUCTION

This document is the final report of the activities, the accomplishments, and the products of the Career Education Accountability Model (CEAM) Project. The activities of the Project were initiated in October, 1977, and continued through November, 1978.

The report consists of sections devoted to Project Objectives, Major Activities, Project Participants, Evaluation, Results, Anticipated Changes, Dissemination Activities, Special Activities, and a Report Abstract. The major activities and events described are arranged within the major tasks outlined in the original project proposal. The products of the project, which consist of the Model Accountability System (MAS), are contained within the text and the appendices of this report. Appendices containing assessment materials include the testing instruments, or inventories, developed for each grade level from kindergarten through twelve, as well as ancillary materials. Other appendices include statements of the career education outcomes, upon which the assessment was based; monitoring and operational materials; and displays of the results of the pilot testing activities. The Model Accountability System (MAS) is bound separately.

II: PROJECT OBJECTIVES

The project objectives stated in the revised project proposal are provided below:

OBJECTIVE 1.0

To develop and prepare for distribution to educators and laymen alike by November 30, 1978, a written document which describes an objective-based Model Accountability System (MAS) that identifies terminal career education behaviors at each grade level, K-12, covering several themes, assessment items for each objective, student individual diagnostic and mastery profiles, class, school, district profiles, and monitoring system approach.

OBJECTIVE 2.0

(deleted)

OBJECTIVE 3.0

To document the process and critique steps used in the development and tryout phases of the MAS model by November 15, 1978, as evidenced by a written report.

OBJECTIVE 4.0

Participants (users) involved in the tryout and validation stages of the models will have a positive attitude toward the further implementation of the model as evidenced by an attitudinal instrument with analysis presented in a final report delivered by November 30, 1978.

III: MAJOR ACTIVITIES

The project activities were directed toward the accomplishment of the major tasks stated in the project proposal, and they are described accordingly.

TASK ONE: Define framework and formulate concepts and sequencing of the Model Accountability System (MAS).

The starting point for the formulation of concepts was to complete a fairly exhaustive review of literature relevant to the area. A major source used was Wesley Tennyson's outline of ten "dimensions," which were identified by using the theory and research of Super, Crites, Ginzberg, Tiedeman, Griggons, and Lohnes. The writings of other theorists, such as Gysbers, Hoyt, Herr, Ogdens, Hansen, and Goldhammer, were also explored, and aspects of all sources were included in the conceptual base of this project. The broad goals for career education produced at the Center for Vocational and Technical Education, The Ohio State University, also were used in this development of the framework of learner outcomes.

Several staff members drafted versions of student objectives related to the original goals or to new ones. The objectives were grouped according to apparent "themes," "definitions," or "concepts," which were then reformulated into a revised set of goal statements. The objectives were then assigned to seemingly appropriate grade levels (K - 12) under the proposed goal. No more than one objective was assigned to a given grade level for each goal, but not every grade level was given an objective for every goal. The resulting product was a matrix of goals and related objectives by grade level (Activity 1.1).

The draft was submitted to a panel (Table 1) of nationally prominent authorities for critique and suggested revisions. The fields of expertise represented in the group included human growth and development, techniques and language of instruction, and

Table 1

PANEL SELECTED FOR CRITIQUE
OF ORIGINAL DRAFT OF GOALS AND OBJECTIVES

Carol Aslanian
Policy Studies in Education
New York City, New York

Mitch Brickle
Policy Studies in Education
New York City, New York

L. Sunny Hansen
University of Minnesota
Minneapolis, Minnesota

Anita M. Mitchell
Culver City Unified School District
Culver City, California

Fred C. Niedermeyer
South West Regional Laboratory
Los Alamitos, California

Debra Sharpe
Georgia State Department of Education
Atlanta, Georgia

Decker F. Walker
Stanford University
Stanford, California

product development, as well as career education and criterion-referenced assessment. The input generated individually by this group consisted of validation and suggested revisions of the entire matrix, the goals, the objectives, and the sequencing.

Many existing programs and publications which included student outcomes in career education were then investigated. These programs included the Texas "Partners in Careers" program, The Oregon Models and Guidelines for Career Development Education, the Far West Laboratory's Experience-Based Career Education Program, and the National Assessment of Educational Progress Objectives for Career and Occupational Development, among others. Publications included the "Concepts" suggested by Bottoms, et al (Career Education Resource Guide, 1972), the Educational Goal Attainment Test of Phi Delta Kappa, the Maple Heights Equity Career Education Program of Policy Studies in Education, and the career education status reports and matrix of outcomes of the Arizona Department of Education, among others (Activity 1.2).

The last step of the first phase of project activities was the final formulation of the system matrix into a framework of three broad theme areas, each describing six distinct student goals (Activity 1.3). These goals were then grouped further into "sections" of two highly related goals, each. Figure 1 graphically illustrates the resulting basic conceptual framework. Table 2 provides the full texts of all the sections. Appendix A contains the texts of all the 18 goals as finally developed, by theme and by identifying letter code.

Figure 1

CAREER EDUCATION ACCOUNTABILITY MODEL SYSTEM

Matrix Goal by Sections and Themes

Theme: SELF "Who I am ... my options ... the values affecting my action."						Theme: SETTING "The world of work ... what it is, what it means, what it requires ... and its values"						Theme: INVOLVEMENT "Personal involvement with the world of work ... including other workers ... using judgements ... and expecting success"					
Section 1: The Dimensions of Self		Section 2: The Use of Options		Section 3: The Influence of Values		Section 4: Varieties of Occupations		Section 5: Requirements of Occupations		Section 6: Rewards in work		Section 7: Commonalities in Careers		Section 8: Career Selection		Section 9: Success	
Goal A	Goal B	Goal C	Goal D	Goal E	Goal F	Goal G	Goal H	Goal I	Goal J	Goal K	Goal L	Goal M	Goal N	Goal O	Goal P	Goal Q	Goal R

780615

Table 2

TOPIC SECTIONS OF OUTCOMES MATRIX

Section 1: The Dimensions of Self

- The variety and interrelationships of personal characteristics and behavior

Section 2: The Use of Options

- The nature and the practical applications of personal options

Section 3: The Influence of Values

- The significance and effects of personal and community values

Section 4: Varieties of Occupations

- What occupations are and how they relate to a person's characteristics

Section 5: Requirements of Occupations

- The prerequisite characteristics and preparation for occupations

Section 6: Rewards in Work

- The concommitant values and obligations inherent in work

Section 7: Commonalities in Careers

- The support that workers provide to society and to each other through careers

Section 8: Career Selection

- The contributions of personal interacting and goal-oriented planning to career investigation

Section 9: Success

- The personal, social, and economic outcomes of and influences on the world of careers

TASK TWO: Draft a minimal, yet comprehensive, program of student behavioral instructional objectives for each of the themes at appropriate grade levels.

In the formulating of the framework of themes and goals which constituted Task One, considerable use was made of draft versions of student outcomes. These were from a variety of sources and were expressed in varying levels of precision. From this large, yet incomplete pool of outcomes, a comprehensive first draft of student performance objectives was produced and integrated within the framework at the grade levels suggested by previous developmental work (Activity 1.4). Figure 2 indicates the frequency of objectives within grade and within goal of the original matrix. Figure 3 reflects the distribution of objectives within the various matrix categories (themes, sections, and goals), as well as within the grade level categories used by Mesa Public Schools. It provides summary figures of the number of objectives within each of these categories, and gives a picture of the roughly equivalent distribution intended by these activities within Task Two.

TASK THREE: Develop pool of assessment item forms.

In many of the programs and drafts reviewed in the conduct of the activities of tasks one and two, sample assessment items or specifications for such items, were compiled. At this point in the activities of the project, staff assembled for review these item versions, as well as other items which had been utilized in determining the construct validity of certain of the objectives. Item specifications were derived from the objectives: summaries of the appropriate response mode, limits of correct and incorrect responses, format, and other criteria of acceptability. All items appropriate to instrumentation

Figure 2

Number of Objectives: By Goal and Grade Level

Grade Level	Goal																		Totals
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	
K	1				1		1		1			1	1		1				7
1			1			1			1		1		1	1		1		1	8
2	1			1			1			1		1		1	1		1		8
3		1			1			1			1		1	1	1	1		1	9
4	1		1				1		1	1				1	1	1	1		9
5		1		1		1		1			1	1	1	1			1	1	10
6			1		1		1	1		1	1	1			1	1		1	10
7		1	1	1	1			1	1	1	1			1	1	1			11
8	1			1	1	1	1			1	1	1	1			1	1		11
9			1	1				1	1	1	1			1	1	1		1	10
10		1		1	1	1	1	1	1	1		1				1			10
11	1		1					1		1	1		1	1	1	1	1		10
12		1		1		1	1	1			1	1			1	1		1	10
Totals	5	5	6	7	6	5	7	8	6	8	9	7	6	8	9	10	5	6	123

Figure 3

Number of Objectives: By Matrix Categories and Grade Level Groupings

		Matrix Categories																		Totals
		Theme: "Self"						Theme: "Setting"						Theme: "Involvement"						
		Sec. 1		Sec. 2		Sec. 3		Sec. 4		Sec. 5		Sec. 6		Sec. 7		Sec. 8		Sec. 9		
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	
Grade Level Groupings	K - 3	2	1	1	1	2	1	2	1	2	1	2	2	3	3	3	2	1	2	32
	4 - 6	1	1	2	1	1	1	2	2	1	2	2	2	1	2	2	2	2	2	29
	7 - 9	1	1	2	3	2	1	1	2	2	3	3	1	1	2	2	3	1	1	32
	10 - 12	1	2	1	2	1	2	2	3	1	2	2	2	1	1	2	3	1	1	30
Totals	Objs.	5	5	6	7	6	5	7	8	6	8	9	7	6	8	9	10	5	6	
	Secs.	10		13		11		15		14		16		14		19		11		
	Themes	34						45						44						123

within a paper-and-pencil format were identified. Item specifications which precluded such assessment, therefore, also identified objectives which required revision so as to provide for it.

At this point, therefore, it was necessary to develop two types of student behavioral objectives: an "optimum objective," for incorporation within the school curriculum, and a "diagnostic objective," to serve as the basis for the development of written assessment materials. This latter type of objective in most cases constituted a revision of the original objective with altered mode of response. These diagnostic objectives therefore also constituted "en route" objectives toward mastery of the "optimum objectives." In many cases, the optimum objective was also the diagnostic objective. Examples of each of these cases are illustrated by the objectives within the same goal for grades 10 and 12, below:

GRADE 10

Optimum Objective:	Diagnostic Objective:
Given the description of a worker right, the student will describe the application of the worker responsibility that accompanies that right.	Given the description of a worker right and of a selection of worker responsibilities, the student will identify the responsibility that accompanies the given right.

Grade 12

Optimum Objective:	Diagnostic Objective:
Given the description of an application of a worker responsibility to a work situation, and the names of certain worker responsibilities, the student will select the responsibility illustrated.	(Same as Optimum Objective)

The given 10th grade diagnostic objective calls for the student to "identify" from a given list of worker responsibilities, whereas the optimum objective at that grade level requires that the student "describe" a responsibility, given only the description of a "right". The two 12th grade level objectives are identical, however.

When development of the draft objectives to be utilized in the instrumentation of written assessment was complete, new item specifications were derived from each new objective. A minimum of three to five assessment items were then drafted for each of the 123 diagnostic objectives. Care was taken to use vocabulary and phrasing that was appropriate to material used in student classes at each grade level.

TASK FOUR: Critique of system framework, objectives, and assessment

An initial critique of the system was provided by individual classroom teachers recognized as having experience in developing and administering materials at the appropriate language and grade levels. Intense review was accomplished at this stage, and the results were incorporated into yet another revision of many of the elements in the system, especially of the assessment items. The next stage in the critique was the input derived from a District Task Force of other professional staff to help determine the internal and external validity of the product as developed to this point. The instructions and conditions of this "Career Education Accountability Model System" ("CEAMS") Critique are included in the attached Appendix B. This procedure consisted of (1) a Grade Level Objective and Test Item

Review and (2) a Development Level Review of Objectives. The critique forms used by participants in both of these exercises are also included in Appendix B. The results of the procedures were summarized for later reference, completing the activities of this task (Activities 1.6, 1.7, 1.8).

TASK FIVE: Revision of objectives and items and first tryout of assessment items

The reviewing staff conducted an extensive revision of all the assessment materials and some of the objectives, in accordance with the recommendations generated by the critique procedure (Activity 1.9). The first draft of assessment items in the form appropriate for student response was developed and prepared for tryouts. An attempt was made to concentrate these developmental steps around representative grades at each of the primary, intermediate, junior high school, and senior high school levels, to avoid omitting attention to any one of the grade levels. For this reason, grades 3, 6, 8, and 11 were selected for initial attention, and the grades immediately above and below those grades were selected as the grades of next priority.

Tryouts of all items were conducted with groups of from 3 to 5 students of each of the appropriate grade and age levels. Therefore, at least two, and as many as five, forms of assessment instruments were assembled and administered to different groups of subjects from kindergarten through grade 12 (Activities 1.10, 1.11). The schedule followed is displayed in Figure 4. Complete protocols of administration were recorded, including all participants' comments, questions, and expressions of apparent difficulty, both with the items and with the draft instructions. An im-

Figure 4

Dates of Development Tests of Career Education Accountability Model Inventories

Type of Test	Grade Level of Inventory													Number of Tests
	K	1	2	3	4	5	6	7	8	9	10	11	12	
Tryouts														
#1	9/78	9/78	3/78	1/78	2/78	4/78	1/78	1/78	2/78	1/78	1/78	2/78	2/78	16
#2				3/78				2/78						
#3				3/78										
Pilots														
#1	10/78	10/78	4/78	4/78	3/78	10/78	2/78	2/78	2/78	2/78	2/78	3/78	2/78	
#2	10/78	10/78	9/78	4/78	10/78	10/78	3/78	3/78	3/78	3/78	9/78	3/78	3/78	46
#3	11/78	11/78	10/78	5/78	10/78	11/78	5/78	10/78	4/78	4/78	10/78	3/78	9/78	
#4			11/78		11/78				5/78	10/78	10/78	5/78	10/78	
Number of Tests	4	4	5	6	5	4	4	5	5	5	5	5	5	62

781103 CEAMS

portant feature of this initial tryout stage for the instruments was the determination of both the maximum and the mean time required for administration and student responding at each grade level. The testing monitors answered questions and redefined terms, when necessary, and recorded all such deviations from the prepared texts. Tape recordings were made of the instrument administrations at the primary level, in order to provide further information of this kind.

Revisions were again made on all elements of the assessment instrumentation, and these constituted major changes and the elimination of some items, as well as extensive resequencing, format alterations, and rewording. The standard selected for determining the rough acceptability of all items at this stage depended upon a determination of whether or not the content of the item in question could reasonably be expected to have been learned by between approximately 40% and 60% of the students from the present curriculum and from experiences in the community. Items that required specific, technical knowledge, which would rarely be found in the present learning experience of most students, suggested an even lower level of performance for acceptability.

TASK SIX: Administer assessment items to representative group of district students.

If extensive revisions suggested it, one or more additional tryouts were conducted, until no further value could reasonably be expected from further administration of the items to a small, and, therefore, not fully representative group of students. The next stage in product refinement was the pilot-testing of the items to larger groups of students, which was accomplished in

grades kindergarten through 12. Many of the pilot tests consisted of administering 2 sets of items, representing all objectives at the grade level, to two halves of one class of students. In later versions, the pilot procedure consisted of administering an entire set of items to one class of students. In the final type of pilot test (see timelines displayed in Figure 4), representative samplings of classes were selected at each of the grade levels. Large-scale administration of the instruments developed to that point were conducted in order to obtain data from a large enough group of students to permit analyses in more depth (Activities 1.13, 1.14). Figure 4 provides the approximate dates for the administration of all such tryouts and pilot tests. The administrations in May and November, 1978, constituted the larger-scale tests referred to above. Appendix C contains a copy of the Inventory Scheduling Data Form which was utilized to collect data on all administrations.

The developmental sequence is summarized statistically in Figure 4: "Dates of Development Tests," already cited, and in the following additional figures:

- Figure 5: "Number of Test Forms Administered" (etc.)
- Figure 6: "Number of Inventory Items" (etc.)
- Figure 7: "Number of Students Tested" (etc.)

These summaries illustrate the distribution of test forms, items and subjects by grade level of inventory, by type of test, and by goal, where appropriate, and provide the grand totals of the statistics of the development of the assessment materials: 101 test forms, containing 339 items, administered on 62 testing dates,

Figure 5

Number of Test Forms Administered in Development of Career Education Accountability Model Inventories

Type of Test	Grade Level of Inventory													Totals by Development Stage
	K	1	2	3	4	5	6	7	8	9	10	11	12	
Tryouts														
#1	4	4	4	2	1	2	2	2	2	2	1	2	2	
#2				2				2	2	2				39
#3								1						
Pilots														
#1	2	2	2	1	1	2	2	2	2	2	2	2	2	
#2	1	1	2	1	2	1	1	1	1	1	1	2	2	62
#3	1	1	1	1	1	1	1	1	1	1	1	1	1	
#4			1		1			1	1	1	1	1	1	
Totals by Grade Levels	8	8	10	7	6	6	6	10	9	9	6	8	8	101

Figure 6

NUMBER OF INVENTORY ITEMS

By Goal, By Objective, and Within Inventory: Grades K-6

Grade Levels		Goal																		Totals	
Inventory	Obj.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	Grade	Inventory
K	--																			N/A	10
	K	1				2		1		1			1	1		2				9	
	1													1						1	
1	K																			--	11
	1			2			1			1		2		1	1		1		1	10	
	2				1															1	
2	1																1			1	16
	2	2			1			2			2		2		2	1		2		14	
	3													1						1	
3	2				1						1		1							3	22
	3		2			2			2			2		2	2	2	--		2	16	
	4			1						1	1									3	
4	3								1			1								2	22
	4	2		2				2		2	2				2	2	2	2		18	
	5				1														1	2	
5	4			1				1												2	25
	5		2		2		2		2			2	2	2	2			2	2	20	
	6										2	1								3	
6	5						1					1		1	1					4	32
	6			2		2		3	3		2	1	2			2	4		2	23	
	7		1						1	1	1					1				5	
Subtotals Grades K-6		5	5	8	6	6	4	9	9	6	11	10	8	9	10	10	8	6	8	138	

Figure 6

NUMBER OF INVENTORY ITEMS

By Goal, By Objective, and Within Inventory: Grades 7-12 and Totals

Grade Levels		Goal																		Totals	
Inventory	Obj.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	Grade	Inventory
7	6			1		1					1	1	1			1				6	33
	7		2	2	2	3			2	2	2	2			2	2	2			23	
	8	1			1		1	1												4	
8	7			1	1				1	1		1			1	1	1			8	36
	8	2			2	2	2	2			2	2	2	3			2	2		23	
	9				1					1	1	1			1					5	
9	8	1					1	1			1	1					1			6	33
	9			2	2				2	3	2	2			2	2	3		2	22	
	10		1			1		1			1		1							5	
10	9								1	1	1	1			1				1	6	32
	10		2		2	2	2	2	2	2	2		2				2			20	
	11	1		1										1	1	1	1			6	
11	10		1		1			2		2							2			8	35
	11	1		2					2		2	2		2	3	3	2	2		21	
	12		1		2			2									1			6	
12	11	1							1		1				1	1	1	2		8	32
	12		2		2		3	2	2			2	3			3	2		3	24	
	--																			N/A	
Subtotals Grades 7-12		7	9	9	16	9	9	13	13	12	16	15	9	6	12	14	20	6	6	201	
Totals All Grades		12	14	17	22	15	13	22	22	18	27	25	17	15	22	24	28	12	14	339	

Figure 7

Number of Students Tested in Development of Career Education Accountability Model Inventories

Type of Test	Grade Level of Inventory													Totals by Development Stage
	K	1	2	3	4	5	6	7	8	9	10	11	12	
Tryouts														
#1	22	26	20	48	5	26	5	2	2	2	5	12	8	
#2				10				4	4	4				210
#3								5						
Pilots														
#1	27	26	28	17	25	31	29	30	30	30	23	28	24	
#2	27	26	27	24	30	27	29	65	75	89	19	33	16	4627
#3	205	201	26	353	31	252	387	28	21	26	28	22	19	
#4			221		282			247	360	243	259	364	217	
Totals by Inventory	281	279	322	452	373	336	450	381	492	394	334	459	284	4837

781107 CEAMS

to 4,837 students, in all grades from kindergarten through 12.

The selection of sample classes at each grade level followed a procedure designed to insure as much representativeness as possible within the constraints of existing district student class assignment:

- Classes of sufficient size (20 or more students), sufficient sexual heterogeneity, and of a sufficient preponderance (more than half) of students of the appropriate grade level were placed in a list according to no particular order.
- A table of randomly-generated numbers was used to select, without replacement, the number of of classes chosen as a sample of sufficient size, eliminating classes found not to qualify according to the criteria described above.

The sample size originally selected, for grades 3, 6, 8, and 11, was 15 classes, but this size proved to be unnecessarily large. Nine classes was therefore established as being a sample of sufficient size for analysis purpose, and this size was used for all other grades. Figure 8 provides a statistical analysis of each sample, including the total number and percentage of the district's schools, classes, and students represented. As indicated, no less than 2.9% (grade 7), and as many as 21.0% (grade 6), of the classes at each grade level were represented in these samples. The overall statistics show the following: the classes chosen consisted of 7.7% of all district classes; the students included in the classes represented 11.4% of all the students in the district; and 80% of the district's schools were represented in the final selection. A more detailed examination of each set of sample classes is provided in Appendix D, "Demography of Participating Classes, Grades K-12": school, teacher, room, number of students, date of inventory administration, and

Figure 8

DESCRIPTION OF SAMPLE CLASSES

Numerical: By Schools Represented and Student Membership

Inventory Grade	Schools			Classes			Students		
	Samp.	Totl.	Pctg.	Samp.	Totl.*	Pctg.	Samp.	Totl.**	Pctg.
K	8	29	27.6%	9	95	9.5%	205	2,486	8.2%
1	9	29	31.0	9	100	9.0	201	2,619	7.7
2	9	29	31.0	9	95	9.5	221	2,634	8.4
3	10	27	37.0	15	89	16.8	353	2,529	14.0
4	8	29	27.6	9	82	11.0	282	2,550	11.1
5	7	29	24.1	9	70	12.9	252	2,422	10.4
6	12	27	44.4	15	71	21.1	387	2,043	18.9
7	6	7	85.7	9	307	2.9	247	2,372	10.4
8	4	7	57.1	15	389	3.9	360	2,425	14.8
9	6	7	85.7	9	186	4.8	243	2,594	9.4
10	3	4	75.0	9	191	4.7	259	2,560	10.1
11	3	4	75.0	15	76	19.7	364	2,024	18.0
12	4	4	100.0	9	85	10.6	217	2,187	9.9
Totals				141	1,836		3,591	31,445	
All Classes	32	40	80.0%			7.7%			11.4%

781109 CEAMS

* Source: Elementary Grades = District school employee lists; secondary grades = school class schedules

**Source: Grades 3, 6, 8, 11 = District Membership Report of 11/17/77; all other grades = District Membership Report of 10/20/78

name of inventory monitor.

It was decided to administer the inventories for kindergarten and grades 1 and 2 to samples of classes selected from one grade higher than the grade level of the instrument. This decision was made in order to approximate, in the fall of the school year, the developmental and skill levels of students of appropriate grade levels near the end of the school year. Subsequent field testing would very probably occur late in a school year with classes of the same grade as that of the tests, and, therefore, would occur with students of approximately the same developmental and skill levels as those included in the pilot tests. Therefore, as indicated in the figures and appropriate appendices, the Kindergarten Inventory was administered to 1st-grade classes, the Grade 1 Inventory was administered to 2nd-grade classes, the Grade 2 Inventory was administered to 3rd-grade classes, and every other inventory was administered to classes at the grade level of the inventory.

TASK SEVEN: Revise and review validated objectives and items.

The suitability of each of the grade level inventories and sets of objectives for the purposes of assessing student cognitive behaviors in career education was assessed by career education staff members engaged in the administration activities and by selected reading level authorities, who made extensive revisions to items on the elementary-grade-level inventories. Many outcomes were revised in structure and wording for the sake of clarity and precision. Continuity through each theme-section-goal-objective sequence was verified, both before and after revisions were made.

Further examinations were also made for absence of duplication, consistency of behavior modes, and accuracy of titles and summaries. The entire body of the outcomes of career education is contained in Appendix E, "Matrix of Career Education Outcomes," which is divided into the three general theme areas and subdivided as follows: nine sections (three sections within each theme), 18 goals (two goals within each section), and 123 objectives (between five and ten objectives for each goal, as per Figure 2). The number or letter code designation, the titles, and a full statement of content is provided for each one of the outcomes, at all levels but that of the objective. If both an optimum objective and a diagnostic objective exist for a given goal at a certain grade level, both of these objectives appear. The themes and sections are restated for each appropriate goal, for ease in perceiving these relationships.

The complete battery of student grade-level inventories, including scripts, direction sheets, and keys, is contained within Appendix Q, "Assessment Materials." In order to facilitate references to these materials, and due to its size, this appendix is bound separately, as the final appendix of this report. The materials are organized according to grade level and the pages are not numbered, due to the existing pagination for each inventory. Separate numbered contents pages are included for each of the two major sections, and for each of the grade-level subsections of materials. Since each primary-grade inventory was uniquely constructed, the contents page for the sections for each grade from kindergarten through three specifies the unique elements of each one of these inventories. The

inventories for grades four through twelve were constructed in the same manner, which is indicated by nearly identical contents pages for each one of these grades.

The student performance objectives, in somewhat abbreviated versions, are correlated with both the goals and the items of each grade-level inventory in the Objectives/Items Correlation Charts in Appendix F. Each one of these charts contains the following:

- List of the codes and of the abbreviated texts of each of the objectives represented by items in the inventory
- Numbers of and correct responses to each of the inventory items, matched to the appropriate objectives

Appendix G contains charts displaying the Items Distribution by Goal and Grade level, for all grades, which include the following:

- The appropriate goal, objective, and grade level of each item of the inventory
- Total number of items appropriate to each goal and to each grade level of the objectives on the inventory

The summary of all of these charts appears in Figure 6, "Number of Inventory Items" (etc.), above, which has already been discussed.

Examples of valuable commentary received from inventory monitors (staff members or substitute teachers employed for the task are included in Appendix H, "Commentary on Administering Primary-Level Inventories." These and other such input were translated into specifications for further revision of the

instruments. Comments received from teachers during the scheduling of the inventories in their classrooms were noted on the data form completed for that occasion (see Appendix C).

The "CEAMS Participant Survey" (Appendix I), was completed by the participating teachers of kindergarten and grades 1, 2, 4, 5, 7, 9, 10, and 12. This instrument calls for respondents to select the degree to which they agree with statements concerning the value and the further development of the model. It also provides an opportunity for participants to comment upon any aspect of the development of the Accountability Model. The responses and comments received on the Survey, (Appendix J), proved to be the richest source of feedback on both the administration procedures and on the assessment materials. In addition to providing individual suggestions for improvement (see Section VII), the results of this survey provide the attitudinal profile of project participants called for by Project Objective 4.0.

The teachers of the classes selected for inventory administration also responded to the items on the same instrument to which their students responded. Figure 9 shows the rounded percentages of objectives mastered by these teachers on the student inventories. The average performance of teachers, for all grades, was 74% of the tested objectives. But data concerning performance on individual objectives and responses to individual items will prove to be of greater value in making further revisions.

TASK EIGHT: Design monitoring components, including profiles for individual student, class, school, and district levels.

Figure 9

ROUNDED PERCENTAGES OF OBJECTIVES
MASTERED BY TEACHERS ON STUDENT INVENTORIES*

Averages by Grade of Inventory

Grade Level	No. Tchrs.	Average Pctg. of Objectives
K	9	90%
1	9	91
2	9	98
3	15	83
4	10	75
5	9	87
6	14	67
7	8	68
8	15	72
9	9	68
10	7	49
11	15	48
12	9	60
	Average of grade averages	74%

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* n = 138

Activities designed to produce monitoring components on individual student, class, school, grade, and district levels were carried on as concomitants to the design of assessment materials. It was evident from the beginning that the system should be designed according to levels of outcomes (items, objectives, and goals), on the one hand, and according to the areas desired for monitoring (student, class, school, and district). Since each objective was keyed to a given goal and to a given grade level, the existing coding system for objectives, which included a letter for the goal and a letter ("K") or numeral for the grade, provided a ready-made system for monitoring performance by grade, goal, and objectives. In a similar fashion, two existing district data processing programs for the recording and reporting of criterion-referenced student performance in reading and mathematics provided the essential formats adaptable to the recording, reporting, and display of such performance according to the various desired areas or levels.

Existing district criterion-referenced testing software and programs were adapted to accommodate the required input and output. Charts, tables, and matrices were designed to summarize the output to be generated by data processing resources. A format for the recording of the first testing and the mastery by a student on each of the 123 district objectives was designed (Appendix K).

A display and discussion of the materials used and the results derived from the monitoring component is included in another section of this report, "Section VI: Results."

TASK NINE: Critique and approve monitoring component.

Members of the career education project staff, teachers, and district personnel reviewed the monitoring component in terms of its capability to reflect performance in career education according to the following parameters:

- Possessing the capabilities of coding, storing, and reporting performance data
- Displaying performance of various types: items, objectives, goals, sections, themes, and for the entire model
- Displaying performance on the various desired grouping levels: individual student, class, school, grade, and district
- Compatibility with existing district performance reporting systems
- Adaptability to computerization, at all levels of recording, storing, and displaying results
- Capability for use in diagonosis of strengths/ deficiencies, as well as in displaying graphic representations for the purpose of perscriptions and summative analysis

The monitoring component was found to possess all of these capacities, by virtue of its developmental history and as demonstrated in the pilot testing stage. The review identified certain areas of recommended improvements which could be instituted during future field-testing of the system.

TASK TEN: (deleted)

TASK ELEVEN: Prepare Model Accountability System (MAS) for dissemination.

The Model Accountability System (MAS), which consists of all of the elements contained and described in this report, has been prepared and is bound separately.

IV. PROJECT PARTICIPANTS

Participants in the activities of the Career Education Accountability Model Project consisted of the students to whom inventories were administered, teachers of classes selected for inventory administration, test monitors, and administrative personnel. The total number of participants is summarized, by various categories, in Figure 10 (OE Form 467, 2/76).

The numbers of students of each grade and within each class appear both in Figure 7, "Number of Students Tested" (etc.), and in Appendix D, "Demography of Participating Classes, Grades K-12," already mentioned. The breakdown of the number of teachers by grade is also contained in Appendix D, as well as in Figure 9, also already cited. The test monitors consisted of seven substitute teachers, who were employed for the task, and two members of the staff of the Career Education Project, who assisted. The two persons listed in the "administrators" category consisted of the consultant who planned, directed, and evaluated the activities of the project and an assistant, who managed the field efforts and shared in all other phases.

V. EVALUATION

The evaluation components for Objective 1.0 and Objective 3.0 of the Project consist of many of the procedures already described in Section III, "Major Activities," and in activities which will be described in Section VI, "Results," both of which are parts of this report. The activities devoted to the development of the model (MAS) are described in the report according to the appropriate major task specified in the project proposal, as already indicated above. Those tasks specifically devoted

Figure 10

PROJECT PARTICIPANT SUMMARY

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
WASHINGTON, D.C. 20202

CAREER EDUCATION PROGRAM

PARTICIPANT SUMMARY

NOTE: Participants include those DIRECTLY served by the project or, in the case of most parents and persons in the business/labor/industry community, who actively assist in project implementation. "Actively assist" includes efforts such as serving as resource persons, serving on Advisory Groups, providing work experience, etc.

FORM APPROVED
OMB NO. 51-R1187

NUMBER OF PARTICIPANTS (see NOTE above) WHO ARE	RACE/ETHNICITY (all Participants including Handicapped, Gifted and Talented, and Low Income) *						OF THE TOTAL (column (6)) * NUMBER WHO ARE			OF THE TOTAL (column (6)) * NUMBER WHO ARE	
	AMERICAN INDIAN OR ALASKAN NATIVE (1)	ASIAN OR PACIFIC ISLANDER (2)	BLACK/ NEGRO (3)	CAUCASIAN/ WHITE (4)	HISPANIC (5)	TOTAL (sum of columns (1) through (5)) (6)	HANDICAPPED (7)	GIFTED AND TALENTED (8)	LOW INCOME (9)	MALE (10)	FEMALE (11)
STUDENTS											
ELEMENTARY (K-6)	59	18	29	2,134	253	2,493	56	75	292	1,266	1,227
MIDDLE/JUNIOR HIGH (7-9)	46	8	18	1,073	122	1,267	57	11	209	639	628
SENIOR HIGH (10-12)	24	8	13	943	89	1,077	26	3	76	552	525
2-YEAR COLLEGE											
4-YEAR COLLEGE											
ADULTS (non-matriculated)											
SUB-TOTAL	129	34	60	4,150	464	4,837	139	89	577	2,457	2,380
EDUCATIONAL PERSONNEL											
TEACHERS	1		1	119	9	130				51	79
COUNSELORS											
ADMINISTRATORS				1	1	2				1	1
MEMBERS OF THE BUSINESS/ LABOR/INDUSTRY COMMUNITY											
PARENTS											
OTHER (specify) Test Monitors				7	2	9					
TOTAL	1		1	127	12	141					

OE FORM 467, 2/76

* Totals for students represent approximations based on District grade percentages, since classification data at time of testing was not collectible.

to evaluation stages are as follows:

- Task Four: Critique of system framework, objectives, and assessment
- Task Five: Revision of objectives and first tryout of assessment items
- Task Seven: Revise and review validated objectives and items
- Task Nine: Critique and approve monitoring component

The activities engaged in to accomplish these evaluation tasks are described under the appropriate task headings in the "Major Activities" section.

The evaluation activity undertaken to measure the outcome of Objective 4.0 consisted of obtaining and displaying certain attitudinal data from a large portion of the non-student project participants. The teachers of all classes selected from the levels of Kindergarten, and grades 1, 2, 4, 5, 7, 9, 10, and 12 were asked to respond to the "CEAMS Participant Survey," already referred to (see Appendix I). The 82 responders provided indications of how most participants felt about "further implementation" of the MAS, and about the functions that the system was designed to provide.

The expressed reactions to the item concerning the usage of the Model were generally positive, but not uniform in degree. Seventy-eight percent of the teachers felt that they could use student performance reports to help students to achieve, and 20 percent "strongly agreed" with the proposal (Item 1). But less favorable support (65 percent, and only 11 percent "strongly agreed") was expressed for making a "continuous progress learning report" on student mastery available to

teachers (Item 2). The expression of "no opinion" by 22 percent of the responders may indicate the need for future user orientation efforts.

The items which sought teacher reaction to future stages of implementation drew the most positive level of support. The suggestion of correlating student outcomes to existing materials in order to provide for resource availability keyed to given objectives (Item 3) yielded an 80 percent agreeable response, and 26 percent "strongly agreed." But even more support, 90 percent, including 55 percent "strongly agree," was registered for the suggestion that the District should field test the system before "deciding to implement it on a District-wide basis" (Item 4). Only four percent of the responding teachers, all of whom taught tenth-grade classes, requested that a report of their students' mastery performance not be sent to them -- 90 percent requested such a report.

VI. RESULTS

The results of the development of the Model Accountability System (MAS) consist of three catagories of data:

- Feedback from participants
- Performance of students
- Indications of need for changes

The extent and nature of the feedback from the teacher participants has already been discussed, in Section III, "Major Activities," and in Section IV, "Project Participants," above (Figure 9 provides the results of teacher performance on the inventories, and Appendix J contains the results of the "CEAMS

Participant Survey"). The changes recommended by the pilot testing are discussed in Section VII, "Anticipated Changes," below. This section is devoted to an examination of the performance of students.

Average class performance was the unit of measurement chosen for the pilot-testing procedures which concluded the current development of the Model Accountability System (MAS). Classes, or class periods, were selected at random, within grade levels, for the testing procedure, and students were tested as members of intact classes or class periods. It follows, then, that the most accurate generalization of the results obtained is to average class performance, within each grade level, which constitutes a measure of the performance of each grade. But results were obtained on individual students within classes, schools within grades, and the District, as the grand average of all grades. It is for this reason that it was possible to develop profiles within the two major categories of interest: type of result (student, class, grade, school, and District) and type of outcome (items, objectives, goals, and all goals -- the entire Model). Each profile is represented by a numbered exhibit included within the appendix which corresponds with the type of result illustrated by the exhibit. Figure 11, a "Comprehensive Guide to Profiles of Results," is a cross-referenced index to types of results by types of outcomes.

The appendices appropriate to each type of result are as follows:

- Appendix L: Results by Individual Student
- Appendix M: Results by Class

Figure 11

COMPREHENSIVE GUIDE TO PROFILES OF RESULTS

Exhibit Numbers by Type of Outcome

Type of Outcome	Type of Results				
	Student	Class	Grade	School	District
Item	--	4, 5, 6	6	--	--
Objective	1, 2	3, 4, 6	6, 7	9	11, 12
Goal	--	--	8	10	11, 12
All Goals (Entire Model)	2	--	--	--	11, 12

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- Appendix N: Results by Grade
- Appendix O: Results by School
- Appendix P: Results by District

Within each appendix is a "contents" page, which includes a list of the numbered exhibits contained within the appendix, an explanation of the type performance displayed by each exhibit, and keys to the format or design of the exhibit. In some cases, an exhibit consists of more than one copy of a form or a display. In one case, several displays are included on an exhibit of a single page.

RESULTS BY INDIVIDUAL STUDENT (Appendix L)

The profiles of performance of individual students on the objectives of one grade-level inventory (the Grade 7 Inventory) are contained in Appendix L: Exhibit 1 (within class) and Exhibit 2 (separately). Exhibit 1, the photocopy of a computer print-out, may be interpreted by referring to a given format code. Each row contains (in sequence, left to right) the following:

- Name of student
- Percentage of objectives mastered by student (viz., "52.38" for first student, etc.)
- Number of objectives mastered (viz., "11" for first student, etc.)
- Identity of each objective mastered (indicated by "x"s)

Each column contains (in sequence, top to bottom) the following:

- Code identifier for an objective, which indicates the goal to which it pertains and the grade level in which it belongs (viz., "B7" for the objective

under goal B for grade 7, etc.)

- Abbreviated title of objective (viz., "GRPS&PRBS" for objective "B7")

- Indication (with "x"s) of which students mastered the given objective

The Student Profile form (see Appendix K) appears in Exhibit 2 completed for one student in the example class (two copies), according to the "Directions for Completion," which are also provided. The two forms completed for a student show, respectively, (a) the student's performance on the Grade 7 Inventory (form with entries in three columns, only), and (b) the student's performance on assessment for objectives for grades kindergarten through 7 (form with entries in columns for these eight grades). The latter form illustrates the following types of performance data:

- Mastery of objective at own grade level on occasion of first administration of assessment

(Example: Objective AK, a kindergarten objective, which student mastered in kindergarten upon first assessment, on 11-19-71)

- Mastery of objective at own grade level on occasion of a subsequent administration of assessment

(Example: Objective J2, a grade 2 objective, which student failed to master on 9-15-73, while enrolled in Grade 2, but did so on 4-5-74, while still in Grade 2)

- Mastery of objective above own grade level on occasion of administration of assessment at a lower grade level

(Example: Objective F5, a grade 5 objective, which student failed to master on 11-6-75, while in Grade 4, but did so on 12-13-75, while still in Grade 4)

- Failure to master an objective on which assessment has

been administered, as of final date recorded on the Profile form

(Example: Objective H6, a grade 6 objective, which student had failed to master on 10-15-77, while enrolled in Grade 6, and had not yet mastered on 11-14-78, the final date on the form, when student was in Grade 7)

- Assessment not yet administered on an objective

(Example: Objective M11, on which assessment has not yet been administered to this student, who is enrolled in Grade 7)

The Student Profile of Accomplishment in Career Education can, therefore, be used to reflect the current performance status of the student on each individual objective in the Model, as follows:

- Objectives not yet assessed
- Objectives assessed, but not yet mastered
- Objectives mastered

But the figures in the bottom row and in the righthand-most column also provide the following information on an individual student:

- Percentage of objectives of each grade level mastered by the student (cells in bottom row, the averages of each grade-level column)
- Percentage of objectives which comprise each goal mastered by the student (cells in the righthand-most column, the average of each goal row)

Therefore, the most complete individual student Profile form indicates that he or she has accomplished the following, for example:

- Mastery of 54.5% of the Grade 7 Objectives and 100% of the Grade 5 Objectives
- Mastery of 66.6% of the objectives of Goal C and

only 40.0% of the objectives of Goal P

By monitoring this form, the record of performance of each student may be "tracked" through the grades and be kept available for diagnostic purposes for teachers, parents, and the student. The format also constitutes a prototype of a feasible computerized version, which could be produced periodically, for reporting purposes, and on demand, for diagnosis and prescription.

RESULTS BY CLASS (Appendix M)

The profiles of performance on the objectives of one grade-level inventory by the students in a class are displayed by Exhibit 3 (students in one class), Exhibit 4 (summary of one class), and Exhibit 5 (summaries for all classes). Exhibit 3 provides summary data on performance on objectives and items for each individual student, as well as summaries for all the students on all of the items and all of the objectives. Exhibit 4 reveals the performance of all of the students in one class on each individual objective, as well as the total number of students who were present. For each objective, the following information is provided:

- Code and abbreviated title of the objective (viz., "B7-GRPS&PRBS," etc.)
- Percentage of students who mastered the objective, the figure directly below the title of each objective (viz., 40.0 for Objective "B7-GRPS&PRGS," etc.)
- Number of students who mastered the objective (viz., 10 students for Objective "B7-GRPS&PRBS," etc.)

The examples in Exhibits 5 for the inventories for grades

3, 6, and 8 display the performance of each individual class and of all classes on each inventory. This profile can provide a basis for comparing the average performance of a given class to that of another, on items or on objectives. For instance, on the Grade 3 Inventory, the class in which students achieved the highest average percentage of mastery of objectives (51.3%) was the class of J. Heaton, 25 students, at Washington School. Similarly, the lowest level of average performance on that inventory (30.9%) appears for the class of G. Black, 24 students, at Longfellow School.

RESULTS BY GRADE (Appendix N)

The exhibits which constitute profiles of performance by grade level are Exhibits 6, 7, and 8. Exhibit 6 is a set of lists of grade-level summaries of the average performance of classes on both all items and all objectives on each inventory. This display does not reveal details concerning the grade level or the identity of the individual objectives, but serves as a useful reference to overall performance on the grade-level inventories. For example, the average percentage of mastery of objectives of the classes who completed the Kindergarten Inventory was 59.8%, whereas the same measure for classes who completed the Grade 11 Inventory was 28.7%. These performance figures are not necessarily those of students enrolled in the given grades, unless all the students to whom a certain grade-level inventory was administered were actually enrolled in that grade. This latter situation did exist in the developmental

testing of the inventories for grades kindergarten through 9. However, classes which completed the inventories for grades 10 through 12 often contained students enrolled in various other grades. Administration of inventories only to students enrolled in an appropriate grade, on an individual basis, would maintain grade level consistency throughout the grades, if such was desired.

Exhibit 7 reveals a different sort of profile of performance by grade: the total number and percentage of all students who completed the inventory who mastered each given objective on the inventory. This display ignores all other measures, but provides a detailed reference to the grade-level performance on the various objectives. Overall displays of performance may be constructed from these data, such as the District-wide exhibits in Appendix P, below, and representations of performance on objectives within various sub-categories (sections, sets of sections, theme areas, etc.).

Finally, Exhibits 8 consists of charts prepared for each of the 13 grade-level inventories, which display various details of the performance on objectives of the students to whom the inventories were administered. These exhibits show how many students, and what percentage of students, mastered each objective on each inventory, but also show the following:

- Performance within the grade on all objectives appropriate to each of the goals represented (cells in the two righthand-most columns, representing averages and totals for the rows appropriate to the goals of the objectives on the inventory)

- Performance within the grade on all of the objectives on the inventory, by the appropriate grade level of these objectives (cells in the two bottom rows, representing the percentages and numbers of students mastering objectives of the grade level of the inventory -- the center set of two columns -- and of the two adjacent grade levels -- the two sets of double columns flanking the center set)

These displays enable various comparisons of the performance of students completing each grade-level inventory:

- Performance on the objectives of one goal versus another

(Example: On the Grade 8 Inventory, 49.1% of the students mastered the two objectives of Goal I, I7 and I9, whereas 38.3% of the students mastered the three objectives of Goal D: D7, D8, and D9)

- Performance on the objectives of one grade level versus another

(Example: On the Grade 3 Inventory, 37.7% of the students mastered the Grade 3 Objectives, 40.8% of the students mastered the Grade 2 Objectives, and 40.7% of the students mastered the Grade 4 Objectives)

The "No." (number) cell for each objective on each of these charts contains the number of students who mastered that objective. The "Totals" and "Duplicated Total No." cells contain the number of "masteries" of objectives in each appropriate row or column. These are duplicated totals of students, and are not additive, except for making further calculations.

RESULTS BY SCHOOL (Appendix O)

Exhibits 9 and 10 contain displays which constitute profiles of performance on the inventories by school. Exhibit 9 is a photocopy of a summary computer printout of the numbers

and percentages of students who mastered each objective of an inventory at a particular school ("School 57"). For instance, 53, or 61.6%, of the 86 students to whom inventory "Test 507" was administered at "School 57" mastered objective "A8-COM-CHAR-." Note that a number of 6th-grade and 8th-grade objectives, as well as all of the 7th-grade objectives, are represented on the printout. Exhibit 10 includes two computer-generated displays: a summary of the performance on one inventory for one school (upper portion of display) and a summary of the performance on one inventory of six schools (lower portion of display). The upper portion is interpreted as follows:

- Grade level of inventory (viz., "Test 507" is Grade 7 Inventory)
- School (viz., "School 57" is Rhodes Junior High School)
- Number of students to whom inventory was administered is the second column from the left (viz., "86" is the number of students who completed inventory at "School 57")
- Performance on inventory items is summarized in columns 2 and 3: average percentage correct (viz., "46.5%"), and average number correct (viz., "15.3")
- Performance on inventory objectives is summarized in the two righthand-most columns: the average number of objectives mastered (viz., "6.7"), and the average number not mastered (viz., "14.2")

The same performance results are provided for all schools at which the inventory was administered (schools "51," and "53" through "57") in the lower portion of the display. The format and coding is the same as that for the upper portion of the display, for only one school, described above. It should be

noted that these exhibits do not report the average percentage of objectives mastered by students within each school, which would be calculated from the data which is provided.

RESULTS BY DISTRICT (Appendix P)

The data provided by many of the preceding exhibits formed the basis for the calculations of the results by District displayed in two 2-page exhibits in Appendix P. Exhibit 11 is a comprehensive display of the percentage of students who mastered the objectives of all of the grade-level inventories, as follows:

- Number of students to whom inventory was administered: numerals after "n=" in each one of the cells in the lefthand-most column (viz., 235 students were administered the Grade 9 Inventory)

- Individual objectives: the figures in the cells formed by intersections of goal columns and grade-level rows (viz., 37.0% of the students to whom the Grade 5 Inventory was administered mastered objective K5)

- The objectives of only a certain grade level included within an inventory: the percentages within the second column from the righthand side of each chart (viz., the grade 10 objectives on the Grade 11 Inventory were mastered by 27.0% of the students to whom the Grade 11 Inventory was administered)

- All of the objectives included within the inventory: the percentages in the righthand-most column of each chart (viz., the objectives of the Grade 2 Inventory were mastered by 44.8% of the students to whom the inventory was administered)

- The objectives of a certain goal, for grades K-6, 7-12, or K-12: the percentages in the bottom row of the "Grades K-6" chart and in the bottom two rows of the "Grades 7-12 and Overall" chart (viz., the objectives of Goal B were mastered by the students to whom all grade-level inventories were administered, as follows: grades K-6, 44.7%; grades 7-12, 37.9%; and grades K-12, all grades, 40.2%)

- The objectives of all goals, for grades K-6, 7-12, and K-12: the percentages in the lower righthand cell of the "Grades K-6" and in the two lower righthand cells of the "Grades 7-12 and Overall" chart (viz., the objectives of the inventories were mastered in average percentages by the students to whom they were administered, as follows: grades K-6, 42.0%; grades 7-12, 29.6%; and grades K-12, all grades, 34.7%)

The final set of figures indicates that, on the average, the 123 objectives included in all grade-level inventories were mastered by an average percentage of 34.7% of all the students to whom the inventories were administered.

The same chart format is followed in the 2-page display of the number of students who mastered the objectives of each category discussed above. For example, 120 students mastered Objective D2 on the Grade 3 Inventory, 948 students mastered the Goal O objectives of the grades K-6 inventories, and there were 20,067 "masteries of objectives," overall, in the developmental pilot testing phase of the Model Accountability System (MAS).

RESULTS FOR TEACHERS

As described above, the teachers of the classes to which student grade-level inventories were administered also responded to the inventories. The results of the scoring of these responses is displayed in Figure 9. The average percentage of mastery of the student objectives by teachers was 74%, for all grades, and some mastery levels were far below that average. These results may indicate that further reviews of certain portions of the instruments are called for, or that the content involved has not been mastered much more by some teachers than by many of their students.

SUMMARY OF RESULTS

The Model Accountability System (MAS) has demonstrated the following capabilities:

- Identifying terminal career education behaviors at each grade level, in the form of themes, goals, and objectives
- Providing assessment items that measure the outcomes specified in the grade level objectives
- Generating profiles of performance on the identified career education behaviors, by individual student, by class, by grade, by school, and for the entire District
- Allowing for the longitudinal monitoring of student performance on any given type of outcome, by any type of result desired

As such, the MAS has met the criteria and has achieved the requirements of Objective 1.0 of the Project proposal. "Section III: Major Activities" has provided the developmental documentation required in Objective 3.0, and, therefore, represents the achievement of that objective. And the positive attitudes expressed by project participants toward the further implementation of the Model represents the achievement of Objective 4.0. Since all three of the project objectives have been achieved, the activities and outcomes described represent the accomplishment of the goals of the Career Education Accountability Model Project, and provide directions for the further implementation of the product of the Project, The Model Accountability System (MAS).

VII. ANTICIPATED CHANGES

The development of the MAS revealed the need for a number of changes which would include the following examples.

CHANGES IN MATERIALS

Inventory Instruments -- The change in the grade-level inventories most clearly called for by the development experience

is the elimination of the items measuring objectives above and below the grade level of each inventory. For example, the items measuring both 6th-grade and 8th-grade objectives would be eliminated from the Grade 7 Inventory. This action is recommended by the following:

- The present number of items is often insufficient to adequately measure all of the objectives of the grade level of the inventory.
- The "mastery level" of 100 percent of all items for each objective is presently inconsistent, since objectives from "adjacent grades" on an instrument are usually represented by only one item. A correct response to the one item representing each such objective is insufficient to indicate "mastery" of that objective.
- Standard, grade-level inventories should be limited to objectives for that grade, and a pool of items for objectives of adjacent grades should be used as the source of measures for those objectives.
- Monitoring procedures are made more cumbersome and less useful by virtue of the present design for construction of the inventories.

Performance Displays -- Computer-generated master displays should replace manually-produced charts for the display of performance of students in all grades and for all goals. Such a change would be the by-product of a full computerization of all statistical operations of the model, as described in the "Changes in Procedures" section below. If such displays are computer-generated, individual or overall changes in performance results could be reflected on demand, to assist in individual diagnoses, reporting procedures, and curriculum planning.

Inventory Scheduling Data Form -- Demographic data (including race, ethnicity, sex, etc.) can most easily be collected when an inventory administration is scheduled. It

would then be posted in special areas added to the "Inventory Scheduling Data Form" and then summarized from these forms for reporting purposes. When all such data is keyed to student identification numbers in the District student data bank, this procedure will be unnecessary.

Student Profile of Accomplishment in Career Education -- The date of entry into the Mesa Public Schools of each new student must be added to the "Student Profile of Accomplishment in Career Education" form at appropriately designated places. This will establish a starting point for the tracking of mastery performance by each student, and, with it, whatever develops in the assignment of responsibility for each student's performance. In addition, the posting of the dates which are established for the computing of periodic subtotals of student performance by goal and by grade level of objectives would also help users in utilizing and interpreting the form.

CHANGES IN PROCEDURES

Inventory Administration -- Teachers should be trained in the techniques of inventory administration which are called for by special situations: oral administration for non-readers, administration in a foreign language for students who do not use English, small-group administration for primary grades, etc. These proposed changes anticipate the development of a considerable variety of ways of adminstration of inventories or of assessment exercises based upon individual or groups of objectives, in order that assessment of actual student behavior on the objectives may be improved.

Model Installation -- Some of the attitudinal data derived from the "CEAMS Participant Survey" and much of the pilot testing experience indicates that considerable effort should be devoted to developing or improving installation procedures for the Model Accountability System (MAS). Such installation procedures would incorporate the optimum level of the activities which were found to yield the best results during the pilot-testing phase:

- Plan each activity completely and with sufficient time for every event.
- Explain and demonstrate the benefits to each participant of the operation of the model, being sure to follow through with any commitments made.

Data Processing Programs -- Changes should be made both to the instructions provided for certain presently utilized data processing programs, and to some of these programs, themselves. Certain new programing should also be provided.

The "mastery level" established for all objectives, on all inventories, was set at 100 percent of all of the items on that inventory which assessed that objective (see "Mastery Level" in "Inventory Instruments" section, above). In the case of the objectives from adjacent grade levels on that inventory, this level of mastery proved to be unrealistic, since, as indicated above, only one item usually represented that objective. Therefore, for example, a 7th-grade-student might be required to correctly respond to three items to master a 7th-grade objective on the Grade 7 Inventory, whereas only one correctly answered item for the same objective might be required for mastery on a Grade 6 or 8 inventory.

Changing the "mastery level" instructions or, as indicated above, deleting items from adjacent grade levels would correct this deficiency.

Changes to certain presently used data processing programs would also improve the utility of the MAS. For instance, no overall District results for a grade are provided by the "Summary and Gain" program (see exhibits in "Results by School" in Section VI, "Results," of this report). The present necessity of computing District figures manually from the results derived for each school for each grade would then be eliminated.

Finally, new programing efforts should be made in order to expedite and make more efficient the operations of the Model. All of the charts included in the exhibits in the "Results" sections of this report are prototypes for displays which should and could be generated by computer resources. Therefore, student progress could be tracked at any interval desired by utilizing a computer-generated display to replace the "Student Profile of Accomplishment in Career Education"; the "Percentage of Students Who Mastered Objectives" could be displayed and printed periodically for diagnosis and reporting purposes; and a combined picture for any type of result (items, objectives, goals etc.) could be available for students, teachers, parents, and curriculum planners, on a routine basis or as needed.

SUMMARY OF CHANGES

A number of recommendations for specific changes grew out of

the development of the Model Accountability System (MAS) through the pilot test stage and to the present date. A field-testing procedure for the MAS would incorporate these changes, while inserting the model into the regular District assessment program, on the one hand, and subjecting the Model to the rigors of the operational phase, on the other hand. Additional changes would be suggested by and incorporated within the activities of such a field-testing effort.

VIII. DISSEMINATION ACTIVITIES

The major dissemination activities of the Project are as follows:

- An original and two copies of the Final Project Performance Report are being submitted to the project officer.
- A camera-ready copy of the Model Accountability System (MAS) is being submitted to the project officer.
- Copies of the Model Accountability System (MAS) will be disseminated nation-wide.
- A news release and flyer will be distributed across the nation.
- A journal article on this project is being prepared for submission.
- A copy of all of the non-copyrighted career education curriculum material used in this program will be submitted to the National Center for Career Education at the University of Montana.
- Further dissemination plans will be made with the project officer.

IX. SPECIAL ACTIVITIES

Explicit efforts were made throughout the planning, development and operations of the Project to minimize stereotyping on the

bases of age, sex, ethnic group, or any other irrelevant category. Reviews for this purpose of all outcomes and assessment materials were incorporated into the critiques already described. Staff and participant input during the tryout and pilot testing phases was translated into revisions, as needed. Conscious efforts were made to minimize cultural and other biases in all resources, including instructions and other user materials.

During the developmental stages, staff members collected information for use in adapting the current materials and procedures to special circumstances, such as reading or language difficulties, and problems associated with group size, administration time, testing sites, delivery of instructions, etc. Some of the recommendations which resulted from these efforts are incorporated in the "Anticipated Changes" section of this report.

X. PROJECT ABSTRACT

The Project Abstract appears separately on the following pages of this report, according to the model format provided in the Outline Form Approved (OMB No. 51-R1137).

CAREER EDUCATION ACCOUNTABILITY MODEL

Project Abstract

CAREER EDUCATION PROGRAM PROJECT PERFORMANCE REPORTS		FORM APPROVED OMB NO. 51-R1187
1. PROJECT NUMBER: #554AH70063	2. GRANT NUMBER: G0077C0126	3. NATURE OF REPORT: ☐ SEMI-ANNUAL ☒ FINAL
4. PROJECT TITLE: Career Education Accountability Model		5. PERIOD COVERED BY THIS REPORT: 12 months; FROM (month, day, year): 10-1-77; TO (month, day, year): 11-30-78
6. CATEGORY OF PROJECT (as specified in 45 CFR 160d.5 and 160d.11): ☒ INCREMENTAL ☐ SETTINGS ☐ POPULATIONS ☐ TRAINING ☐ COMMUNICATIONS ☐ STATE PLAN		
7. NAME OF PROJECT DIRECTOR: Dr. William Raymond		
8. NAME AND ADDRESS OF GRANTEE/ASSISTANCE CONTRACTOR INSTITUTION: Mesa Unified District #4, 549 North Stapley Drive, Mesa, Arizona 85203		TELEPHONE: AREA CODE 602; NUMBER 962-7525

9. Major Activities. Project activities were designed to accomplish the following summarized objectives:

- Develop a written objectives-based Model Accountability System (MAS) that identifies terminal career education behaviors according to several themes; specifies assessment items for each objective; and provides a monitoring system and mastery profiles for the individual student, class, school, grade, and district -- at all grades, kindergarten through 12.
- Document the process and critique steps used in the development phases of the MAS
- Demonstrate that users of the MAS have a positive attitude toward its further implementation

These activities consisted of developing, for each grade, K-12, the following: (a) a conceptual and sequential framework; (b) a comprehensive matrix of viable goals and objectives; (c) representative assessment items validated for every objective

and contained in administrable inventories; (d) formats for the display of test data for student, class, school, grade, and district; (e) instrumentation and procedures for the pilot testing of the Model and System; and, (f) a measure for assessing the attitude of participants. Data supporting each stage of development was collected, was arranged for display in charts and tables, and was incorporated in further revisions. The Model Accountability System (MAS), including all the completed components, was contained and described in the Final Performance Report, and was prepared under separate cover.

10. Project Participants. Participants in the activities of the Project included (a) the 4,837 students tested, in classes of grades K-12, (b) 130 teachers of all classes tested, (c) nine test monitors, and (d) two administrators/developers. The students were members of and the teachers were teachers of randomly selected intact classes at each grade level.

11. Evaluation. Evaluation consisted of many of the stages in the development of the MAS materials and procedures: reviews, critiques, and analyses of tryout and pilot test data. Teacher attitude was measured with an affective instrument and in the form of commentary elicited in various ways.

12. Anticipated Changes. Various and detailed recommendations for changes in the MAS were derived from the developmental activities. The results of the final pilot tests, including the data displayed according to the formats of the various profiles, pointed to needed changes in materials (assessment instruments,

displays, and forms) and in procedures (test administration, Model installation, and data processing). All such changes would be appropriate to incorporation in further development.

13. Dissemination Activities. Dissemination will have included the transmitting of copies of the Report and the Model to the project officer; the nationwide distribution of copies of the Model and of news releases and flyers; the preparation and submission of a journal article; and the depositing of all appropriate materials with the National Center of Career Education.

14. Special Activities. Explicit care was taken to ensure that the materials and procedures of the MAS did not include irrelevant and stereotypical references to sex, age, culture, etc. Allowances for special circumstances of the design and administration of assessment, which became an area of concern, have been incorporated into a number of the recommendations for the further development of the Model.

APPENDIX A

Career Education Goals

The Theme Area of SELF

"Who I am ... my options ... the values affecting my actions

Goal A: Variety in Self

- The student will be familiar with personal characteristics and how they apply to self-understanding.

Goal B: Effects of Self

- The student will appreciate the interrelationship between personal characteristics and personal behavior.

Goal C: Options Available

- The student will understand the extent of a person's control over his or her own destiny.

Goal D: Decision-Making

- The student will be acquainted with the nature and the use of processes for resolving problems through systematic decision-making.

Goal E: Personal Values and Self-Concept

- The student will make his or her own value system explicit and applicable to given situations.

Goal F: Values of and for Others

- The student will appreciate both the congruence and the conflicts of personal values and community values that are involved in living in society.

The Theme Area of SETTING

"The world of work ... what it is, what it means, what it requires ... and its values"

Goal G: Classifications

- The student will be familiar with both the diversity and the common characteristics of a variety of occupations.

Goal H: Occupations and the Self

- The student will be able to evaluate occupations in terms of interest, skill, ability, and self-concept.

Goal I: Aptitudes and Training

- The student will appreciate the prerequisite abilities of occupations and the training which provides these abilities.

Goal J: Subject Relevancy

- The student will recognize the contribution of formal education to the world of occupations.

Goal K: The Value of Work

- The student will know the various meanings ascribed to work and the satisfactions that can be derived from work.

Goal L: The Discipline of Work

- The student will recognize the importance of individual responsibility in any work situation.

The Theme Area of INVOLVEMENT

"Personal involvement with the world of work, ... including other workers, ... using judgements, ... and expecting success"

Goal M: Acceptance of All Workers

- The student will understand that all occupations and all workers make valuable contributions to society.

Goal N: Interdependence of Workers

- The student will appreciate the ways in which workers depend upon each other while functioning in the world of work.

Goal O: Interpersonal Skills

- The student will recognize and use positive and effective ways of dealing with other people.

Goal P: Planning and Acceptance

- The student will be able to make feasible career plans and prepare for a variety of planning outcomes.

Goal Q: Lifestyle and Value of Success

- The student will appreciate the varieties of lifestyles and the measures of success associated with careers and experienced by workers.

Goal R: Societal and Economic Causes and Effects

- The student will understand the mutual interaction of occupations with society and the economic world, and will appreciate the implications of this relationship, both for the individual person and for society.

APPENDIX B

CEAMS Critique Materials

- Participant Directions
- Participant Work Sheet Forms

CEAMS CRITIQUE DIRECTIONS

I. GRADE LEVEL OBJECTIVE AND TEST ITEM REVIEW

DIRECTIONS: Using the list of objectives and test items as well as the yellow sheet, note areas of concern regarding the student outcomes and test items in the grade you are reviewing. Note concerns by writing a red number (1,2,3,4, etc.) directly on the material, and then on the yellow sheets. Note both your concern and how to handle the concern. Be specific. Then, put your name and page number on each yellow sheet. Please also enter your grade level and name where indicated on the chart.

You are to examine the student outcomes for such things as:

1. Are the content, questions, etc., appropriate to the students' developmental stage?
2. Is the content coverage adequate and accurate?
3. Is the content useful, sensible?
4. Are these outcomes the most important ones? Are these behaviors new behaviors, which, for the most part, are not currently part of the normal curriculum?
5. Is the content relevant?
6. Is the vocabulary stated so that a student will understand it?
7. Are the outcomes presented with clarity -- simply, and in such a manner that you didn't have to reread or interpret?
8. Are there important behaviors missing?
9. Are there any unnecessary words?
10. Do the behaviors represent reasonable expectations for the grade level specified?
11. Are there any behaviors which you think need to be reworded?
12. Do the test items relate to the objective?
13. Is the test item well written? How would you rewrite it?
14. Would students be able to get the right answer without any instructions?

15. Is the item too difficult, or too easy?

16. Are there test items which would be more important than the ones developed?

17. If the optimum objective is different from the diagnostic objective, can you suggest a way to measure it?

II. DEVELOPMENT LEVEL REVIEW OF OBJECTIVES

DIRECTIONS: Follow the same procedures as you did for the grade level review except as follows: put your name and the grade level being reviewed on the left-hand corner of the material. Use black pens and green forms on the material this time. Things to consider in examining this material include the same ones as in items 1 through 11 of the previous section with the following additions:

12. Are the content, questions, etc., appropriate to the students' developmental stage?

13. Is the content sequence logical between grades?

14. Is there unnecessary duplication?

REVIEWED BY: _____

_____

_____

DEVELOPMENT LEVEL REVIEW

DEVELOPMENT LEVEL: _____

PAGE ___ OF _____

CHART NO.	CONCERN	SUGGESTED REVISION TO HANDLE CONCERN

63

REVIEWED BY: _____

_____

_____

GRADE LEVEL

GRADE LEVEL: _____

PAGE ___ OF _____

CHART NO.	CONCERN	SUGGESTED REVISION TO HANDLE CONCERN

64

79

80

APPENDIX C

Inventory Scheduling Data Form

CAREER EDUCATION EVALUATION

Inventory Scheduling Data

An appointment for the administration of the Career Education Inventory has been scheduled, as follows:

Date _____ Grade _____ Staff Member _____

School _____

Principal _____

Teacher(s) _____

Room _____ Building _____

Class Time: _____ to _____ Period#_____

No. Students _____. Grade(s) _____

Type of Inventory:

_____ Tryout (First _____; Other _____)

_____ Pilot (First _____; Other _____)

_____ Field (Other classes included as follows: _____

_____.)

Additional Information

_____

_____

_____

_____

780306 CEAMS 51.3 tdg

APPENDIX D

Demography of Participating Classes, Grades K-12

DEMOGRAPHY OF PARTICIPATING CLASSES

Kindergarten Inventory*

School	Teacher	Room	No. Ss	Date	Staff
Adams	Price, B.	2	24	11-9-78	Dumont
Hale	Thoenes, S.	16	26	11-8-78	Garcia
Hawthorne	Bienz, L.	4	23	11-7-78	McGovern
Jordan	Martindell, F.	--	21	11-1-78	Dumont
Keller	Renshaw, D.	11	25	11-8-78	Dumont
Roosevelt	Henes, G.	B3	23	11-8-78	McGovern
Roosevelt	Maffucci, M.	B1	22	11-8-78	McGovern
Webster	Roy, C.	4	19	11-2-78	Garcia
Whitman	Baedke, S.	28	22	11-9-78	Garcia

* Responded to by Grade 1 classes

DEMOGRAPHY OF PARTICIPATING CLASSES

Grade 1 Inventory*

School	Teacher	Room	No. Ss	Date	Staff
Field	Skinner, L.	--	24	11-8-78	Garcia
Hale	Svitak, A.	17	25	11-7-78	Dumont
Holmes	Cluff, E.	--	25	11-9-78	McGovern
Jefferson	Wolsieffer, A.	11	19	11-1-78	McGovern
Keller	Vale, P.	5	22	11-8-78	Dumont
Lincoln	Ramsdell, M.	10	22	11-1-78	Dumont
Roosevelt	Shook, S.	B8	22	11-8-78	McGovern
Webster	Bray, J.	10	19	11-2-78	Garcia
Whittier	Elson, N.	4	23	11-2-78	McGovern

* Responded to by Grade 2 classes

781113 CEAMS 1FT

DEMOGRAPHY OF PARTICIPATING CLASSES

Grade 2 Inventory*

School	Teacher	Room	No. Ss	Date	Staff
Adams	Carson, R.	20	24	11-9-78	Dumont
Field	Stapley, R.	D4	26	11-8-78	Garcia
Hale	Rivera, E.	31	24	11-7-78	Dumont
Irving	Peterson, E.	C1	20	11-1-78	Garcia
Keller	Perry, P.	27	29	11-8-78	Dumont
Longfellow	Lauer, M.	--	25	11-2-78	Dumont
MacArthur	Roth, P.	D2	27	11-9-78	Garcia
Redbird	Roberts, P.	--	26	11-9-78	Dumont
Webster	Wright, J.	14	20	11-2-78	Garcia

* Responded to by Grade 3 classes

DEMOGRAPHY OF PARTICIPATING CLASSES

Grade 3 Inventory

School	Teacher	Room	No. Ss	Date	Staff
Adams	Maughan, D	5	25	5-2-78	Dēyo
Adams	Carson, R.	20	26	5-3-78	Dēyo
Field	Taylor, J.	D4	31	5-4-78	Panaro
Holmes	Wilson, S.	A6	17	5-3-78	Garcia
Jefferson	Bohn, F.	__	19	5-3-78	Thorp
Jefferson	Ferguson, A.	__	23	5-3-78	Thorp
Longfellow	Bassford, S.	20	24	5-3-78	Williams
Longfellow	Black, G.	29	24	5-3-78	Williams
MacArthur	Ray, J.	C1	27	5-4-78	Panaro
Redbird	Benge, D.	__	17	5-4-78	Kobler
Roosevelt	Foote, V.	F1	24	5-4-78	Williams
Washington	Hanson, M.	D3	23	5-3-78	Kobler
Washington	Heaton, J.	E7	25	5-3-78	Kobler
Washington	Vaughan, M	D4	25	5-3-78	Panaro
Whitman	Tupper, D.	33	23	5-4-78	Dēyo

781101 CEAMS 3FT

DEMOGRAPHY OF PARTICIPATING CLASSES

Grade 4 Inventory

School	Teacher	Room	No. Ss	Date	Staff
Edison	Higuera, G. & Story, P.	23	64	11-7-78	Dumont
Hawthorne	Bowers, N.	19	26	11-7-78	McGovern
Hawthorne	*Riege, M.	20	30	11-7-78	McGovern
Lincoln	Roberts, B.	20	21	11-1-78	Dumont
Longfellow	Rehfeld, P.	26	31	11-2-78	Dumont
Salk	Sutphin, B.	D1	28	11-1-78	Garcia
Washington	**Nelson, B.	E5	25	11-2-78	McGovern
Webster	Norred, T.	--	28	11-2-78	Dumont
Whittier	Cota, N.	12	29	11-2-78	McGovern

* Represented by substitute teacher

** Debbie Hill responded for Mrs. Nelson

DEMOGRAPHY OF PARTICIPATING CLASSES

Grade 5 Inventory

School	Teacher	Room	No. Ss	Date	Staff
Edison	Harrelson, U.	24	26	11-6-78	Garcia
Edison	Swan, P.	24	32	11-6-78	Garcia
Field	Hunt, H.	E6	25	11-8-78	Garcia
Field	Terrio, C.	E6	27	11-9-78	Garcia
Holmes	Fogelberg, T.	B4	25	11-9-78	McGovern
Keller	Rodriguez, A.	21	33	11-9-78	McGovern
Salk	Sauerbrun, B.	E1	25	11-1-78	Garcia
Stevenson	Phelps, E.	E3	29	11-1-78	McGovern
Taft	Little, J.	13	30	11-1-78	McGovern

781113 CEAMS 5FT

DEMOGRAPHY OF PARTICIPATING CLASSES

Grade 6 Inventory

School	Teacher	Room	No. Ss	Date	Staff
Eisenhower	Tolar, K	F2	26	5-3-78	Panaro
Field	Schweitzer, J	E2	24	5-2-78	Dēyo
Hale	Smolkovich, G	28	29	5-4-78	Thorp
Jefferson	Elmer, H	___	27	5-3-78	Thorp
Jefferson	Jenkins, D	23	28	5-2-78	Dēyo
Keller	Nelson, E	31	23	5-4-78	Dēyo
Longfellow	Pearce, R	17	32	5-3-78	Williams
Redbird	Calvert, M	___	21	5-4-78	Williams
Salk	Needel, L	3F	29	5-4-78	Thorp
Stevenson	Ory, T	___	32	5-2-78	Thorp
Washington	Bryant, V	F4	22	5-3-78	Panaro
Washington	Casson, D	F3	25	5-3-78	Panaro
Washington	Moya, A	F2	27	5-2-78	Garcia
Webster	Scott, D	22	18	5-2-78	Panaro
Whitman	France, R	43	24	5-4-78	Dēyo

DEMOGRAPHY OF PARTICIPATING CLASSES

Grade 7 Inventory

School	Teacher	Room	Class Pd.	No. Ss	Date	Staff
Fremont J.H.S.	Knight, R.	53	4	24	10-18-78	Dumont
Kino J.H.S.	Cordoza, M.	14	5	29	10-18-78	McGovern
Mesa J.H.S.	Fernandez, E.	508	4	27	10-18-78	McGovern
Poston J.H.S.	Smith, G.	705	6	31	10-10-78	McGovern
Powell J.H.S.	Ekiss, G.	I	6	27	10-17-78	McGovern
Powell J.H.S.	Roig, M.	I3	6	22	10-17-78	Dumont
Rhodes J.H.S.	Gonvers, P.	____	4	26	10-17-78	Garcia
Rhodes J.H.S.	Paulsen, L.	____	4	28	10-17-78	McGovern
Rhodes J.H.S.	Tregaskes, M.	____	4	33	10-17-78	Dumont

781031 CEAMS 7FT

DEMOGRAPHY OF PARTICIPATING CLASSES

Grade 8 Inventory

School	Teacher	Room	No. Ss	Class Pd.	Date	Staff
Carson J.H.S.	Bergquist, S.	____	26	1	5-11-78	Kobler
Carson J.H.S.	Betz, W.	138	20	3	5-11-78	Williams
Carson J.H.S.	Kendrick, R.	335	28	1	5-11-78	Williams
Carson J.H.S.	Kendrick R.	335	15	6	5-11-78	Williams
Carson J.H.S.	Moore, L.	333	21	1	5-11-78	Thorp
Carson J.H.S.	Moore, L.	333	24	4	5-11-78	Thorp
Carson J.H.S.	Moore, L.	333	22	6	5-11-78	Thorp
Carson J.H.S.	Tininenko, N.	____	28	3	5-11-78	Thorp
Mesa J.H.S.	Godell, J.	205	19	4	5-9-78	Biddlecom
Poston J.H.S.	Emberlin, B.	807	27	1	5-9-78	Williams
Poston J.H.S.	Miles, L.	805	29	4	5-9-78	Williams
Poston J.H.S.	Peplow, P.	806	22	2	5-9-78	Williams
Poston J.H.S.	Peplow, P.	806	21	5	5-9-78	Williams
Powell J.H.S.	Hughes, D.	C4&5	31	1	5-9-78	Williams
Powell J.H.S.	Stokes, R.	C-1	27	3	5-9-78	Kobler

DEMOGRAPHY OF PARTICIPATING CLASSES

Grade 9 Inventory

School	Teacher	Room	Class Pd.	No. Ss	Date	Staff
Fremont J.H.S.	Crawford, C.	____	3	26	10-25-78	Biddlecome
Fremont J.H.S.	Smith, R.	61	3	27	10-18-78	Garcia
Kino J.H.S.	Rood, H.	15	1	27	10-18-78	Garcia
Mesa J.H.S.	Stewart, N.	112	1	28	10-11-78	McGovern
Poston J.H.S.	Barker, W.	204	5	29	10-10-78	Dumont
Poston J.H.S.	Foley, R.	701	5	31	10-10-78	McGovern
Poston J.H.S.	Schedler, R.	108	5	31	10-10-78	Garcia
Powell J.H.S.	Armistead, K.	D4	5	21	10-12-78	McGovern
Rhodes J.H.S.	Remos, M.	____	3	23	10-17-78	Garcia

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DEMOGRAPHY OF PARTICIPATING CLASSES

Grade 10 Inventory

School	Teacher	Room	Class Pd.	No. Ss	Date	Staff
Mesa H.S.	Cluff, H.		6	19	10-11-78	McGovern
Mesa H.S.	Johnson, R.	29	6	26	10-11-78	Garcia
Mesa H.S.	Preshaw, R.	300	6	40	10-11-78	Dumont
Mt. View H.S.	Brady, J.	305	3	58	10-10-78	Dumont
Mt. View H.S.	Griffin, R.	305	3		10-10-78	Garcia
Mt. View H.S.	Nelson, C.	226	3	33	10-10-78	McGovern
Westwood H.S.	Brewster, S.	212	3	25	10-12-78	Garcia
Westwood H.S.	Downing, G.	Gym	3	32	10-12-78	McGovern
Westwood H.S.	Wurtz, J.	402	3	26	10-12-78	Dumont

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DEMOGRAPHY OF PARTICIPATING CLASSES

Grade 11 Inventory

School	Teacher	Room	Class Pd.	No. Ss	Date	Staff
Mesa H.S.	Bloom, R.	111	2	29	5-10-78	Thorp
Mesa H.S.	Bloom, R.	111	3	29	5-10-78	Thorp
Mesa H.S.	Van Dyne, R.	109	A	29	5-10-78	Thorp
Mt. View H.S.	Brown, K.	217	2	22	5-10-78	Panaro
Mt. View H.S.	Brown, K.	217	6	15	5-10-78	Panaro
Mt. View H.S.	Hillman, H	208	4	33	5-10-78	Williams
Mt. View H.S.	Kleiner, J.	212	1	15	5-10-78	Williams
Mt. View H.S.	Kleiner, J.	212	3	28	5-10-78	Williams
Mt. View H.S.	Parker, J.	220	3	27	5-10-78	Panaro
Mt. View H.S.	Pico, J.	220	5	25	5-10-78	Panaro
Westwood H.S.	Cummins, C.	212	2	22	5-9-78	Panaro
Westwood H.S.	Goodman, B.	311	5	20	5-9-78	Panaro
Westwood H.S.	Stortz, H.	314	3	25	5-9-78	Panaro
Westwood H.S.	Stortz, H.	314	4	17	5-9-78	Panaro
Westwood H.S.	Thomas, A.	310	3	28	5-9-78	Kobler

DEMOGRAPHY OF PARTICIPATING CLASSES

Grade 12 Inventory

School	Teacher	Room	Class Pd.	No. Ss	Date	Staff
Mesa H.S.	Langford, W.	112	3	23	10-11-78	Dumont
Mesa H.S.	Packard, L.	130	3	25	10-11-78	Garcia
Mesa H.S.	Peterson, R.	115	3	20	10-12-78	Booth
Mesa Central	Reichard, R.	8	A	15	10-12-78	Garcia
Mt. View H.S.	Kleiner, J.	212	2	31	10-10-78	Dumont
Mt. View H.S.	Kleiner, J.	212	3	32	10-10-78	Booth
Westwood H.S.	Pinckert, J.	316	1	24	10-12-78	Dumont
Westwood H.S.	Smith, D.	415	A	23	10-12-78	Dumont
Westwood H.S.	Smith, D.	415	4	24	10-12-78	Garcia

781031 CEAMS 12FT

APPENDIX E

Matrix of Career Education Outcomes

The Theme Area of SELF

"Who I am ... my options ... the values affecting my actions"

Section 1: The Dimensions of Self

- The variety and interrelationships of personal characteristics and behavior

Goal A: Variety in Self

- The student will be familiar with personal characteristics and how they apply to self-understanding.

Goal B: Effects of Self

- The student will appreciate the interrelationship between personal characteristics and personal behavior.

THE AREA OF THE SELF OF CAREERS

"Who I am ... my options ... the values affecting my actions"

Section 1: The Dimensions of Self

- The variety and interrelationships of personal characteristics and behavior.

Goal A: Variety in Self

- The student will be familiar with personal characteristics and how they apply to self-understanding.

GRADE K (KINDERGARTEN)

Optimum Objective:

Given an oral or a graphic example of a way of describing someone, the student will describe himself or herself in the same way.

Diagnostic Objective:

Given oral or graphic descriptions of people and three ways of describing someone, the student will select the way illustrated by the example.

GRADE 2

Optimum Objective:

Given the name of a category of personal characteristics, the student will name three of his/her own personal characteristics in the category.

Diagnostic Objective:

Given the name of a category of personal characteristics and examples of personal characteristics, the student will identify the example that belongs in the category.

Goal A: Continued

GRADE 4

Optimum Objective:

Given a set of personal characteristics, the student will arrange the characteristics in the order of importance that best describes him or her.

Diagnostic Objective:

Given the description of a person and sets of personal characteristics, the student will select the set of characteristics that is most appropriate to the person described.

GRADE 8

Optimum Objective:

Given a number of ways of describing someone (i e., physical characteristics, abilities/interests/talents, aspects of life-style, etc.), the student will identify all the similarities to and the differences from the ways in which he or she can be described.

Diagnostic Objective:

Given sets of characteristics (i.e., physical, abilities/interests/talents, aspects of life-style, etc.) for a number of persons, and given a statement concerning two or more of the persons, the student will identify the persons to whom the statement pertains.

GRADE 11

Optimum Objective:

Given an opportunity for self-description in terms of personal strengths and personal weaknesses, and the names of five categories of personal characteristics, the student will compose a discussion of himself or herself, using personal strengths from three categories and personal weaknesses from two categories.

Diagnostic Objective:

Given groups of personal characteristics and the names of the categories in which a given person has strengths and the categories in which a person has weaknesses, the student will select the group of characteristics which best represents the strengths and weaknesses of the person.

THE THEME AREA OF SELF

"Who I am ... my options ... the values affecting my actions"

Section 1: The Dimensions of Self

- The variety and interrelationships of personal characteristics and behavior.

Goal B: Effects of Self

- - The student will appreciate the interrelationship between personal characteristics and personal behavior.

GRADE 3

Optimum Objective:

Given the description of an activity, a task, or an occupation, the student will identify his or her strengths or weaknesses in carrying out the activity, task or occupation.

Diagnostic Objective:

Given the description of an activity, a task, or an occupation, and given various personal characteristics, the student will identify the characteristic that is a strength for the given activity, task, or occupation.

GRADE 5

Optimum Objective:

Given the description of a problem situation, the student will describe his or her reaction to the situation, based on his or her personal characteristics.

Diagnostic Objective:

Given descriptions of a problem situation, an individual's characteristics, and behaviors which are alternative reactions, the student will select the reaction which is the most probable for the individual.

Goal B: Continued

GRADE 7

Optimum Objective:

The student will describe the kinds of career activities that would make use of his or her dominant qualities or characteristics (physical attributes, work style, interests, skills, etc.).

Diagnostic Objective:

Given descriptions of (a) the dominant qualities or personal characteristics of a number of persons, and (b) a career activity, the student will identify the persons for whom the career activity would be appropriate.

GRADE 10

Optimum Objective:

Given the description of a group of personal characteristics and the description of a task or activity, the student will describe the probable effects of the characteristics on the performance of the task or activity.

Diagnostic Objective:

Given the descriptions of (a) a group of personal characteristics, (b) a proposed task or activity, and (c) various outcomes, the student will select the outcome which is the most probable effect of the characteristics.

GRADE 12

Optimum Objective:

The student will demonstrate the effects of his or her personal strengths and weaknesses on the performance of a given task.

Diagnostic Objective:

Given the descriptions of (a) a person's personal strengths and weaknesses, (b) a task or activity, and (c) various outcomes, the student will select the outcome that is the probable effect of the given personal characteristics.

Section 2: The Use of Options

- The nature and the practical applications of personal options

Goal C: Options Available

- The student will understand the extent of a person's control over his or her own destiny.

Goal D: Decision-Making

- The student will be acquainted with the nature and the use of processes for resolving problems through systematic decision-making.

THE THEME AREA OF SELF

"Who I am ... my options ... the values affecting my actions"

Section 2: The Use of Options

- The nature and the practical applications of personal options

Goal C: Options Available

- - The student will understand the extent of a person's control over his or her own destiny.

GRADE 1

Optimum Objective:

Given descriptions of everyday activities, the student will identify the examples in which he or she is (a) self-sufficient or (b) dependent.

Diagnostic Objective:

Given an oral or graphic description of three activities, the student will select the one activity which could be done either (1) independently by a first grader or (2) cooperatively with other people.

GRADE 4

Optimum Objective:

The student will describe a personal experience that offered several choices, identifying factor(s) which contributed to the choice.

Diagnostic Objective:

Given examples of situations in everyday living, the student will identify the situation which he or she could change.

GRADE 6

Optimum Objective:

Given the description of a proposed change in living environment, the student will name three options available to him or to her that would contribute to the change.

Diagnostic Objective:

Given the description of a proposed change in living environment and various available options, the student will select the option that will facilitate the change.

GRADE 7

Optimum Objective:

Given (a) a problem from life, and (b) an outcome of the problem, the student will describe the choices that could have been made by persons involved in the problem that would have led to the outcome.

Diagnostic Objective:

Given descriptions of a problem from life, of an outcome of the problem, and of a variety of choices of action that could have been made by persons involved in the problem, the student will select the choice of action which was most likely to have led to the outcome.

GRADE 9

Optimum Objective:

Given (a) the description of a situation in which there are no choices of action open, and (b) possible changes in the situation, the student will select the change which would have made at least one choice of action possible.

Diagnostic Objective:

(Same as Optimum Objective)

GRADE 11

Optimum Objective:

Given a real-time situation which requires that some action be taken, and given the availability of various alternative personal actions related to the situation, the student will initiate the action which represents the most effective control over his or her own destiny.

Diagnostic Objective:

Given the description of a situation and of available options related to the situation, the student will select the option which best represents an effective control over one's own destiny.

THE THEME AREA OF SELF

"Who I am ... my options ... the values affecting my actions"

Section 2: The Use of Options

- The nature and the practical applications of personal options

Goal D: Decision-Making

- - The student will be acquainted with the nature and the use of processes for resolving problems through systematic decision-making.

GRADE 2

Optimum Objective:	Diagnostic Objective:
Given the description of a stage in the making of a decision and examples of alternative actions, the student will select the action that represents the next appropriate step in the decision-making process.	(Same as Optimum Objective)

GRADE 5

Optimum Objective:	Diagnostic Objective:
Given the description of a problem requiring decision-making, the student will describe the remaining stages or procedures to follow in progressing to resolution of the given problem.	Given the description of a situation and the names of certain elements in the decision-making process, the student will identify the name of the element which is called for by the situation.

GRADE 7

Optimum Objective:

The student will describe a choice that he or she has made in terms of the nature of the situation and of the factors involved in the choice.

Diagnostic Objective:

Given the description of a decision and of a number of factors affecting decisions, the student will select the factors(s) that most affected the given decision.

GRADE 8

Optimum Objective:

Given (a) the description of a problem concerning a student's living environment and (b) a number of possible actions related to the problem, the student will describe a plan for using five (5) actions (at least two short-term actions and two long-term actions) to help solve the problem.

Diagnostic Objective:

Given (a) the description of a student's plan for improving his or her own invironment, and (b) alternative actions related to the problem area, the student will select the action that is most appropriate to the plan.

GRADE 9

Optimum Objective:

Given descriptive examples of how persons make decisions, the student will identify those decision-making steps that were taken in all of the exemplary situations.

Diagnostic Objective:

Given (a) a characteristic of or a statement concerning decision-making, and (b) examples of ways of choosing, the student will select the example that corresponds to the characteristic or the statement.

Goal D: Continued

GRADE 10

Optimum Objective:

The student will describe a decision-making system appropriate for use in a given life situation or problem.

Diagnostic Objective:

Given the description of a stage in the resolution of a problem situation and the names of the steps in a decision-making procedure, the student will select the name of the step which corresponds to the described stage.

GRADE 12

Optimum Objective:

Given (a) the description of a problem situation, (b) a number of ways in which the problem can be solved, and (c) a criterion (basis) for determining whether or not the problem has been solved, the student will select the solution that satisfies the requirement of the criterion.

Diagnostic Objective:

(Same as Optimum Objective)

THE THEME AREA OF SELF

"Who I am ... my options ... the values affecting my actions"

Section 3: The Influence of Values

- The significance and effects of personal and community values

Goal E: Personal Values and Self-Concept

- - The student will make his or her own value system explicit and applicable to given situations.

GRADE K (KINDERGARTEN)

Optimum Objective:

Given the description of part of a personal value system and illustrations of persons doing various things, the student will identify the action that corresponds to the value.

Diagnostic Objective:

(Same as Optimum Objective)

GRADE 3

Optimum Objective:

Given examples of attitudes, the student will describe how a similar attitude has influenced his or her behavior in a given situation.

Diagnostic Objective:

Given a description of an attitude and illustrations of applications of attitudes toward life situations, the student will select the illustration which corresponds to the attitude.

Goal E: Continued

GRADE 6

Optimum Objective:	Diagnostic Objective:
Given a description of a person's self-concept, the description of a situation, and alternative outcomes of the situation, the student will select the probable outcome of the reaction of that person in the situation.	(Same as Optimum Objective)

GRADE 7

Optimum Objective:	Diagnostic Objective:
The student will list in order of importance descriptions of five goals that he or she plans to accomplish in life, among which are included (a) at least one statement of self-concept, and (b) at least one statement of personal attitudes or values.	Given descriptions of life goals, some of which include statements of self-concept and/or of personal values, the student will identify the goals which are the best examples of self-concept or of personal values.

GRADE 8

Optimum Objective:	Diagnostic Objective:
Given a description of a personal life goal and descriptions of personal value systems, the student will identify the value system that is most closely related to the given life goal.	(Same as Optimum Objective)

GRADE 10

Optimum Objective:	Diagnostic Objective:
The student will describe his/her self-concept in terms of congruence of personal characteristics with life expectations.	Given a description or illustration of personal characteristics and expressions of life expectations, the student will select the expression that is congruent with the characteristics.

The Theme Area of SETTING

"The world of work ... what it is, what it means, what it requires ... and its values"

Section 4: Varieties of Occupations

- What occupations are and how they relate to a person's characteristics

Goal G: Classifications

- The student will be familiar with both the diversity and the common characteristics of a variety of occupations.

Goal H: Occupations and the Self

- The student will be able to evaluate occupations in terms of interest, skill, ability, and self-concept.

THE THEME AREA OF SELF

"Who I am ... my options ... the values affecting my actions"

Section 3: The Influence of Values

- The significance and effects of personal and community values

Goal F: Values of and for Others

- - The student will appreciate both the congruence and the conflicts of personal values and community values that are involved in living in society.

GRADE 1

Optimum Objective:	Diagnostic Objective:
Given descriptions or examples of personal values, community values, and other values, the student will identify the examples of community values.	(Same as Optimum Objective)

GRADE 5

Optimum Objective:	Diagnostic Objective:
Given descriptions or illustrations of situations involving values of various kinds, the student will identify the situations which illustrate the choice of or a conflict between personal and community values.	(Same as Optimum Objective)

Goal F: Continued

GRADE 8

Optimum Objective:	Diagnostic Objective:
Given an example of an institution, an agency, a citizen's or professional group, or other entity from the private or public sector of life, the student will describe how it harmonizes competition between individual values and community values.	Given (a) the description of a conflict between the values or rights of the individual person and those of the community, and (b) examples of institutions, agencies, sectors, or procedures in private or public life, the student will select the example that makes the conflicting elemen compatible.

GRADE 10

Optimum Objective:	Diagnostic Objective:
The student will describe the resolution of a life situation in which a given (set of) community value(s) conflicts with and takes precedence over (a) given personal value(s).	Given a description of a situation involving a conflict or a choice of alternative values, the student will identify the personal and the community values involved.

GRADE 12

Optimum Objective:	Diagnostic Objective:
The student will describe situations appropriate for the application of personal values or value systems.	Given the description of a personal value and of situations involving community action, the student will identify the situation appropriate to the personal value.

THE THEME AREA OF SETTING

"The world of work ... what it is, what it means, what it requires ... and its values"

Section 4: Varieties of Occupations

- What occupations are and how they relate to a person's characteristics

Goal G: Classifications

- - The student will be able to evaluate occupations in terms of interest, skill, ability, and self-concept.

GRADE K (KINDERGARTEN)

Optimum Objective:

Given (an) example(s) of tools, equipment, materials, sounds, etc., of an occupation and the names of occupations, the student will identify the occupation to which the example(s) pertain(s).

Diagnostic Objective:

Given the name of an occupation and an example of the tools, equipment, materials, sounds, etc. of occupations, the student will identify the example which pertain to the given occupation named.

GRADE 2

Optimum Objective:

Upon completion of a field trip to an employment location, the student will correctly name the occupations observed at the location.

Diagnostic Objective:

Given the name or a description of a location of one or more occupations and the names of various occupations, the student will select the occupation that commonly exists at the given location.

Goal G: Continued

GRADE 4

Optimum Objective:

Given the names of types of work, the student will identify each type of work as being involved with either (a) product(s) or (a) service(s).

Diagnostic Objective:

Given names of types of work, one of which is involved with either a product or a service, the student will identify the type of work that is involved with either a product or a service.

GRADE 6

Optimum Objective:

Given the name of a career cluster, the student will name eight distinct occupations included within the cluster.

Diagnostic Objective:

Given the name of a career cluster and a list of occupations, the student will identify the occupation that belongs in the cluster.

GRADE 8

Optimum Objective:

Given the description of an occupational characteristic, the student will name three occupations from at least two occupational clusters that can be described by the characteristic.

Diagnostic Objective:

Given the description of an occupational characteristic and the names of occupations, the student will select the name of the occupation appropriate to the characteristic.

GRADE 10

Optimum Objective:

The student will describe the major function(s) of a given occupation.

Diagnostic Objective:

Given the name of an occupation and brief descriptions of occupational functions, the student will identify the major function of the given occupation.

Goal G: Continued

GRADE 12

Optimum Objective:	Diagnostic Objective:
Given a physical, mental, creative, or other type of skill, ability, interest, talent, or other characteristic, the student will describe how five specific occupations require the characteristic.	Given the names of occupations and the characteristics required by a certain occupation, the student will identify the occupation that requires the characteristics.

THE THEME AREA OF SETTING

"The world of work ... what it is, what it means, what it requires ... and its values"

Section 4: Varieties of Occupations

- What occupations are and how they relate to a person's characteristics

Goal H: Occupations and the Self

- - The student will be able to evaluate occupations in terms of interests, skill, ability, and self-concept.

GRADE 3

Optimum Objective:	Diagnostic Objective:
Given a description of a student's own interest or ability, the student will name an occupational task that matches the interest or ability.	Given the description of an interest or ability and various tasks associated with occupations, the student will select the task that most nearly matches the interest or ability.

GRADE 5

Optimum Objective:	Diagnostic Objective:
Given the description of a task or activity familiar to students and alternative occupations, the student will select the occupation that is most like the given task or activity.	(Same as Optimum Objective)

GRADE 6

Optimum Objective:	Diagnostic Objective:
Given the description of a personal characteristic and the names of types of occupations, the student will identify the type of occupation in which the characteristic is most needed.	(Same as Optimum Objective)

GRADE 7

Optimum Objective:	Diagnostic Objective:
Given the description of an occupation, the student will name five (5) of his or her own personal characteristics, skills, or abilities that he or she thinks are requirements for the performance of the job.	Given an illustration or definition of a personal characteristic and the names of various characteristics, the student will select the name of the characteristic illustrated or defined.

GRADE 9

Optimum Objective:	Diagnostic Objective:
Given lists, in the order of importance, of (a) the requirements for a certain occupation, and (b) a student's characteristics (interests, skills, abilities, and personal goals), the student will identify three (3) job requirements for which there are characteristics of at least the same rank in importance.	Given an illustration of a personal characteristic and the descriptions of characteristics of various occupations, the student will identify the occupation(s) which require(s) the personal characteristic illustrated.

GRADE 10

Optimum Objective:	Diagnostic Objective:
Given selected responses to an occupational interest inventory and the names of five occupational interest areas, the student will identify the interest area suggested by the responses.	(Same as Optimum Objective)

GRADE 11

Optimum Objective:	Diagnostic Objective:
Given the names or descriptions of five occupations, the student will identify the occupation that is not on the same level of responsibility.	(Same as Optimum Objective)

GRADE 12

Optimum Objective:	Diagnostic Objective:
Given a chart or table of line responsibility of an institution, the student will identify the positions that are under the direct supervision of any other given position.	Given a chart or table of line responsibility of an institution and selected positions from the chart, the student will identify the position having direct supervision over a given number of other positions.

Section 5: Requirements of Occupations

- The prerequisite characteristics and preparation for occupations

Goal I: Aptitudes and Training

- The student will appreciate the prerequisite abilities of occupations and the training which provides these abilities.

Goal J: Subject Relevancy

- The student will recognize the contribution of formal education to the world of occupations.

THE THEME AREA OF SETTING

"The world of work ... what it is what it means, what it requires ... and its values"

Section 5: Requirements of Occupations

- The prerequisite characteristics and preparation for occupations

Goal I: Aptitudes and Training

- - The student will appreciate the prerequisite abilities of occupations and the training which provides these abilities.

GRADE K (KINDERGARTEN)

Optimum Objective:

The student will explain how one activity that he or she engages in regularly and performs well was difficult to learn how to do.

Diagnostic Objective:

Given illustrations of activities familiar to primary-level children, the student will identify the activity that is usually the most difficult for a kindergartner to do.

GRADE 1

Optimum Objective:

Given several examples of the aptitudes a child of this age might have, the student will describe at least three of his or her aptitudes.

Diagnostic Objective:

Given the description or illustration of a set of familiar activities and a list of aptitudes, the student will identify the aptitude which is most appropriate to the set of activities.

Goal I: Continued

GRADE 4

Optimum Objective:	Diagnostic Objective:
Given an aptitude and the names of occupations, the student will identify the occupation most requiring the given aptitude.	(Same as Optimum Objective)

GRADE 7

Optimum Objective:	Diagnostic Objective:
Given (a) the description of a type of training required for an occupation (vix., extensive apprenticeship, 90-day training exposure, 5 years of graduate school, etc.), and (b) names of a variety of occupations, the student will identify those occupations that require the given type of training.	(Same as Optimum Objective)

GRADE 9

Optimum Objective:	Diagnostic Objective:
The student will describe the specific personal aptitudes or qualities required for outstanding as opposed to adequate performance of the tasks of a given occupation.	Given the name of an occupation and various aptitudes, the student will identify the specific aptitude required for satisfactory performance of that occupation.

GRADE 10

Optimum Objective:	Diagnostic Objective:
Given the name of an occupation and given preparation timelines for various occupations, the student will select the timeline of the preparation that is required for the given occupation.	(Same as Optimum Objective)

THE THEME AREA OF SETTING

"The world of work ... what it is, what it means, what it requires ... and its values"

Section 5: Requirements of Occupations

- The prerequisite characteristics and preparation for occupations

Goal J: Subject Relevancy

- - The student will recognize the contribution of formal education to the world of occupations.

GRADE 2

Optimum Objective:	Diagnostic Objective:
Given the description of a current school learning activity, the student will describe one application of the activity in everyday living.	Given the description of a current school learning activity and illustrations and/or descriptions of activities in everyday living, the student will identify the living activity in which the school activity is most needed.

GRADE 4

Optimum Objective:	Diagnostic Objective:
Given examples of various ways of learning about how to do tasks, the student will explain how what he or she learned in school prepared him or her for a task done outside of school.	Given examples of various ways of learning about how to do tasks, the student will identify the preparation which consists of formal education.

Goal J: Continued

GRADE 6

Optimum Objective:	Diagnostic Objective:
Given the names of career areas, the student will select those which require (a) considerable formal education, (b) some formal education, and (c) little or no formal education.	Given the names of various occupations, the student will identify the one that requires the most amount of formal education.

GRADE 7

Optimum Objective:	Diagnostic Objective:
Given (a) a description of a person's abilities and skills, and (b) a list of the "wants" and needs related to those abilities and skills, the student will identify the wants and needs which can be acquired through formal education	(Same as Optimum Objective)

GRADE 8

Optimum Objective:	Diagnostic Objective:
Given an outline of a school academic course in which he or she is presently enrolled, the student will name three career choices for which one or more part of the course will provide direct help.	Given an element of a school academic course and the names of alternative careers, the student will identify a career choice in which at least one element of the course will be of direct help.

GRADE 9

Optimum Objective:	Diagnostic Objective:
Given (a) a type of employment, and (b) the names of three formal education subjects, the student will describe how the subjects have direct relevancy to the type of employment.	Given descriptions of (a) a type of training or other preparation, and of (b) various sources of training and preparation, the student will identify the source of the given training or other preparation.

Goal J: Continued

GRADE 10

Optimum Objective:	Diagnostic Objective:
Given the description of an occupational task and the names of certain academic subjects, the student will select the subject which would be of most appropriate help in doing the task.	(Same as Optimum Objective)

GRADE 11

Optimum Objective:	Diagnostic Objective:
Given the description of a type of education or training, the student will describe (a) one example of immediate gratification derived from it, and (b) an example of postponed gratification derived from it.	The student will identify the timeline and type of preparation appropriate to a given career reward.

Section 6: Rewards in Work

- The concommitant values and obligations inherent in work

Goal K: The Value of Work

- The student will know the various meanings ascribed to work and the satisfactions that can be derived from work.

Goal L: The Discipline of Work

- The student will recognize the importance of individual responsibility in any work situation.

THE THEME AREA OF SETTING

"The world of work ... what it is, what it means, what it requires ... and its values"

Section 6: Rewards in Work

- The concommitant values and obligations inherent in work

Goal K: The Value of Work

- The student will know the various meanings ascribed to work and the satisfactions that can be derived from work.

GRADE 1

Optimum Objective:

Given examples of workers and of rewards associated with work, the student will describe a reward received by a worker he or she sees in school or in the community.

Diagnostic Objective:

Given the name of a work site and illustrations of rewards associated with work, the student will identify the reward that is associated with the work site.

GRADE 3

Optimum Objective:

Given examples of people working, the student will name three reasons why people he or she knows work.

Diagnostic Objective:

Given the description of how someone works and of the various reasons why people work, the student will select the reason that is most appropriate to the given worker.

Goal K: Continued

GRADE 5

Optimum Objective:	Diagnostic Objective:
Given the description of a personal characteristic and of a task in school or in the world of work, the student will identify the element of the task in which the characteristic may best be expressed and fostered.	Given the description of a personal characteristic of an individual and elements of a task in school or in the world of work, the student will identify the element of the task which the individual described would enjoy the most.

GRADE 6

Optimum Objective:	Diagnostic Objective:
Given the description of a task, the student will describe the personal satisfaction that people can derive from performing the task.	Given the description of a type of reward for work and a variety of expressions of worker reactions to work, the student will identify the expression which refers to the given reward.

GRADE 7

Optimum Objective:	Diagnostic Objective:
Given the description of a task and examples of present and delayed rewards that people can derive from tasks, the student will identify the example of a delayed reward.	(Same as Optimum Objective)

GRADE 8

Optimum Objective:	Diagnostic Objective:
Given (a) a list of ten reasons that account for people working, including two reasons related to personal satisfaction, and (b) instructions to rank the reasons in order of perceived importance, the student will assign to each of the two "personal satisfaction" reasons one of the ranks between one and five.	Given the description of an aspect of personal satisfaction in work and examples of work characteristics the student will select the work characteristic that illustrates the given aspect of personal satisfaction.

Goal K: Continued

GRADE 9

Optimum Objective:	Diagnostic Objective:
The student will describe three differing meanings people of various cultures or eras have ascribed to work, including one illustrative example for each of the meanings.	Given an example of the meanings that people of various cultures or eras have ascribed to work and the names of the substantive classifications given to the meanings of work, the student will identify the classification to which the example belongs.

GRADE 11

Optimum Objective:	Diagnostic Objective:
Given a work value and a group of the rewards devolving from certain work values, the student will select the reward most appropriate to the given value.	(Same as Optimum Objective)

GRADE 12

Optimum Objective:	Diagnostic Objective:
Given a work value and categories of work values, the student will identify the category to which the value belongs.	(Same as Optimum Objective)

THE THEME AREA OF SETTING

"The world of work ... what it is, what it means, what it requires ... and its values"

Section 6: Rewards in Work

- The concommitant values and obligations inherent in work

Goal L: The Discipline of Work

- - The student will recognize the importance of individual responsibility in any work situation.

GRADE K (KINDERGARTEN)

Optimum Objective:	Diagnostic Objective:
Given illustrations of situations involving supervised and unsupervised children, the student will describe situations where he or she needs supervision.	Given illustrations of situations involving children, the student will identify the situation that usually requires supervision.

GRADE 2

Optimum Objective:	Diagnostic Objective:
Given examples of workers who usually work with supervision, the student will name other workers who need supervision.	Given descriptions of workers, the student will identify the worker who usually works with a supervisor.

GRADE 5

Optimum Objective:	Diagnostic Objective:
Given the description of a job performed with supervision, the student will describe the role of responsibility of an individual worker in performing the job.	Given the description of a job performed with supervision and of examples of attitudes of workers, the student will select the example which best summarizes the responsibility of a supervised worker doing the job.

Goal L: Continued

GRADE 6

Optimum Objective:

Given a description of a job situation, the student will describe an example of a worker demonstrating being responsible to the job situation.

Diagnostic Objective:

Given a description of a work situation and the names of job responsibilities, the student will identify the job responsibility that is illustrated by the situation.

GRADE 8

Optimum Objective:

Given the description of the application to a work situation of a certain type of responsibility, the student will describe another example from his or her own experience, either in school or in another type of work.

Diagnostic Objective:

Given the description of a work situation and alternative actions which could be taken concerning the situation, the student will select the alternative action which reflects responsibility as a worker.

GRADE 10

Optimum Objective:

Given the description of a worker right, the student will describe the application of the worker responsibility that accompanies that right.

Diagnostic Objective:

Given the description of a worker right and of a selection of worker responsibilities, the student will identify the responsibility that accompanies the given right.

GRADE 12

Optimum Objective:

Given the description of an application of a worker responsibility to a work situation and the names of certain worker responsibilities, the student will select the responsibility illustrated.

Diangostic Objective:

(Same as Optimum Objective)

The Theme Area of INVOLVEMENT

"Personal involvement with the world of work, ... including other workers, ... using judgements, ... and expecting success"

Section 7: Commonalities in Careers

- The support that workers provide to society and to each other through careers

Goal M: Acceptance of All Workers

- The student will understand that all occupations and all workers make valuable contributions to society.

Goal N: Interdependence of Workers

- The student will appreicate the ways in which workers depend upon each other while functioning in the world of work.

THE AREA OF INVOLVEMENT IN CAREERS

"Personal involvement with the world of work, ... including other workers, ... using judgements, ... and expecting success"

Section 7: Commonalities in Careers

- The support that workers provide to society and to each other through careers

Goal M: Acceptance of All Workers

- - The student will understand that all occupations and all workers make valuable contributions to society.

GRADE K (KINDERGARTEN)

Optimum Objective:

The student will describe the ways in which the work of his family, relatives, and friends helps him or her.

Diagnostic Objective:

Given descriptions of the help provided by work of family members and other know persons, and given the names and the illustrations of such persons, the students will select the persons who provide the given help.

GRADE 1

Optimum Objective:

The student will describe a way in which the work of people he or she does not know helps him or her.

Diagnostic Objective:

Given examples of a work process (i.e., repair, deliver, construct, etc.), the student will select the example of a process which is done by workers who are not family members.

Goal M: Continued

GRADE 3

Optimum Objective:	Diagnostic Objective:
Given examples of home and community life support and convenience systems (i.e., plumbing, garbage collection, heating, mail delivery), the student will name jobs which are responsible for providing each service.	Given examples of products and the names of five workers, the student will identify the worker who does a job that the product depends on.

GRADE 5

Optimum Objective:	Diagnostic Objective:
Given a societal goal (i.e., law and order, health, equal justic, etc.) the student will name three occupations responsible for meeting that goal.	Given a societal goal (i.e., law and order, health, equal justice, etc.) and a list of occupations, the student will select the occupation most responsible to the societal goal.

GRADE 8

Optimum Objective:	Diagnostic Objective:
Given a description of an occupation and a list of worker contributions to society, the student will select the contribution most appropriate to the occupation.	(Same as Optimum Objective)

GRADE 11

Optimum Objective:	Diagnostic Objective:
Given the name of a lower-order occupation, the student will describe the appreciation that can be felt by a worker for that occupation in terms of the dignity of all work.	Given the description of a worker's appreciation of a lower-order occupation and the names of occupations, the student will identify the name of the occupation described.

THE AREA OF INVOLVEMENT IN CAREERS

"Personal involvement with the world of work, ... including other workers, ... using judgements, ... and expecting success"

Section 7: Commonalities in Careers

- The support that workers provide to society and to each other through careers

Goal N: Interdependence of Workers

- - The student will appreciate the ways in which workers depend upon each other while functioning in the world of work.

GRADE 1

Optimum Objective:

Given an example of a task performed by a group of persons working together, the student will explain why more than one worker is needed to perform the task.

Diagnostic Objective:

Given descriptions or names of tasks performed both by unassisted workers and by groups of collaborating workers, the student will identify the tasks performed by groups of workers.

GRADE 2

Optimum Objective:

Given the description of a task, the student will name the occupational area whose workers are needed to carry out the given task.

Diagnostic Objective:

Given the description of a task and the names of certain occupational areas, the student will select the area whose workers carry out the given task.

Goal N: Continued

GRADE 3

Optimum Objective:	Diagnostic Objective:
Given an explanation of how several kinds of work depend upon each other, the student will name other kinds of work which depend upon each other in the same way.	Given the names of workers, the student will identify the workers who cannot do their work by themselves.

GRADE 4

Optimum Objective:	Diagnostic Objective:
Given a list of occupations that are related in a certain way, the student will describe the way in which the occupations are related.	Given the names of occupations that deal with the same thing (data, things, people, ideas, etc.) and the names of things that occupations can deal with, the student will select the name of the thing which the given occupations deal with in common.

GRADE 5

Optimum Objective:	Diagnostic Objective:
Given the description of a situation requiring a solution, the student will identify participants whose cooperation would be required to achieve a satisfactory outcome.	Given the description of a problem and groups of workers who might solve the problem, the student will select the group that would be most likely to solve the problem.

Goal N: Continued

GRADE 7

Optimum Objective:	Diagnostic Objective:
Given the name of a major industry and the names of five occupations, the student will describe the direct contri-cutions of the occupations to the product(s) or service(s) of the industry.	Given a group of occupations and the names of various industries, the student will select the industry to which the group of occupations directly contributes.

GRADE 9

Optimum Objective:	Diagnostic Objective:
Given a list in random order of jobs in a certain industry that are sequentially dependent, the student will place the jobs in the proper order.	(Same as Optimum Objective)

GRADE 11

Optimum Objective:	Diagnostic Objective:
Given the description of a way in which persons work together and the names of various ways persons work together, the student will select the name of the way that is described.	(Same as Optimum Objective)

Section 8: Career Selection

- The contributions of personal interacting and goal-oriented planning to career investigation

Goal O: Interpersonal Skills

- The student will recognize and use positive and effective ways of dealing with other people.

Goal P: Planning and Acceptance

- The student will be able to make feasible career plans and prepare for a variety of planning outcomes.

THE AREA OF INVOLVEMENT IN CAREERS

"Personal involvement with the world of work, ... including other workers, ... using judgements, ... and expecting success"

Section 8: Career Selection

- The contributions of personal interacting and goal-oriented planning to career investigation

Goal O: Interpersonal Skills

- The student will recognize and use positive and effective ways of dealing with other people.

GRADE K (KINDERGARTEN)

Optimum Objective:

Given the opportunity to participate in a group project, the student will identify several examples of his or her peers interacting with each other.

Diagnostic Objective:

Given illustrations of two or more persons doing things, the student will select the illustrations of individuals who are doing something together.

GRADE 2

Optimum Objective:

Given descriptions or illustrations of persons engaged in activities, the student will identify the example of a helping behavior.

Diagnostic Objective:

(Same as Optimum Objective)

GRADE 3

Optimum Objective:

Given descriptions or illustrations of persons interacting, the student will identify the examples of the positive behaviors and the negative behaviors.

Diagnostic Objective:

Given descriptions or illustrations of persons participating in similar activities, the student will identify the example of positive interaction between the persons.

Goal O: Continued

GRADE 4

Optimum Objective:	Diagnostic Objective:
Given a problem situation that can be solved by different groups using different approaches, the student will describe how a group of individuals would solve the problem.	Given the description of a problem situation involving a person and the descriptions of other persons who might help solve the problem, the student will identify the second person whose cooperation with the first person will achieve the best solution of the problem.

GRADE 6

Optimum Objective:	Diagnostic Objective:
Given the description of a problem in the interpersonal relations of two or more persons, the student will describe at least one change in behavior that would resolve the problem.	Given the description of a problem in interpersonal relations and given proposed changes, the student will select the change which would best solve the problem.

GRADE 7

Optimum Objective:	Diagnostic Objective:
While engaging in a supervised group project, 90% of the student's behaviors in interacting with superiors will be positive and constructive.	Given a description of the demonstration of a positive interpersonal work skill and the names of various work skills, the student will identify the name of the skill that is described.

GRADE 9

Optimum Objective:	Diagnostic Objective:
Given a situation requiring communication with peers and/or supervisors and descriptions of means of communications, the student will select the means of communication that is the most effective and feasible alternative.	(Same as Optimum Objective)

Goal O: Continued

GRADE 11

Optimum Objective:	Diagnostic Objective:
Given an appropriate opportunity, the student will demonstrate an example of cooperative interaction with peers, without having been given explicit directions.	Given descriptions of persons working together, the student will identify the persons that are working together voluntarily and without explicit directions to do so.

GRADE 12

Optimum Objective:	Diagnostic Objective:
Given an appropriate situation, the student will demonstrate an example of effective leadership with peers without elicitation or explicit direction.	Given generalizations about workers, the student will identify the statement that is either a correct or an incorrect characteristic of a leader.

THE AREA OF INVOLVEMENT IN CAREERS

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Section 8: Career Selection

- The contributions of personal interacting and goal-oriented planning to career investigation

Goal P: Planning and Acceptance

- - The student will be able to make feasible career plans and prepare for a variety of planning outcomes.

GRADE 1

Optimum Objective:	Diagnostic Objective:
Given a description of an activity, the student will identify three possible outcomes.	Given a description of an activity and three possible outcomes of the activity, the student will select the most likely outcome.

GRADE 3

Optimum Objective:	Diagnostic Objective:
Given the opportunity of selecting a goal and of carrying out the activities necessary, the student will identify the activity that was most helpful in causing the goal to be achieved.	Given an example of a situation where a goal is set, activities carried out to meet that goal, and an outcome determined, the student will select the activity most influential in achieving the identified outcome.

GRADE 4

Optimum Objective:	Diagnostic Objective:
Given an appropriate opportunity, the student will identify a preferred occupation and name three other occupations that have similar training, experience, and interest requirements.	Given the name of an occupation and a group of alternative occupations, the student will identify the alternative occupation that is most similar to the example in its training, experience, and interest requirements.

Goal P: Continued

GRADE 6

Optimum Objective:	Diagnostic Objective:
The student will identify, describe, and evaluate the career development resources that are available.	Given an item of occupational information and list of available career development resources, the student will identify the resource that is the best source of the information.

GRADE 7

Optimum Objective:	Diagnostic Objective:
Given the summary description of how a person selected an occupation the student will identify the the personal, the environmental, and the social factors which were involved in the selection process.	Given the summary description of how a person selected an occupation and given the names of the kinds of factors that affect the selection of an occupation, the student will identify the kind of factor which was most important in the example summary.

GRADE 8

Optimum Objective:	Diagnostic Objective:
Given an item of information on an occupation and potential sources of occupational information, the student will identify the source which will confirm the information.	(Same as Optimum Objective)

GRADE 9

Optimum Objective:	Diagnostic Objective:
Given descriptions of greater and lesser needs and a list of alternative careers, the student will identify the career that would satisfy at least one greater need and the largest number of other needs.	(Same as Optimum Objective)

Goal P: Continued

GRADE 10

Optimum Objective:

Given a preferred occupation, alternative career options, and an assessment of personal characteristics and aptitudes, the student will develop a written career plan, including a goal, specific objectives, and feasible activities.

Diagnostic Objective:

Given the description of a career goal and a list of objectives and activities pertaining to the goal, the student will identify the items that are objectives.

GRADE 11

Optimum Objective:

Given a tentative life-plan, the student will name and briefly describe five elements of school experiences that will contribute to the accomplishment of the plan.

Diagnostic Objective:

Given a statement of a life-plan and sets of elements of school experiences, the student will identify the set of experiences which will best contribute to the accomplishment of the plan.

GRADE 12

Optimum Objective:

The student will describe a tentative educational and vocational life-plan, including (a) a comparison of one's own personal characteristics with the requirements of a chosen career, and (b) procedures for acquiring any personal characteristics revealed as needed.

Diagnostic Objective:

Given a characteristic of the career selection process and a list of activities, the student will identify the activity most appropriate to the characteristic.

Section 9: Success

- The personal, social, and economic outcomes of and influences on the world of careers

Goal Q: Lifestyle and Value of Success

- The student will appreciate the varieties of lifestyles and the measures of success associated with careers and experienced by workers.

Goal R: Societal and Economic Causes and Effects

- The student will understand the mutual interaction of occupations with society and the economic world, and will appreciate the implications of this relationship, both for the individual person and for society.

THE AREA OF INVOLVEMENT IN CAREERS

"Personal involvement with the world of work, ... including other workers, ... using judgements, ... and expecting success"

Section 9: Success

- The personal, social, and economic outcomes of and influences on the world of careers

Goal Q: Lifestyle and Value of Success

- - The student will appreciate the varieties of lifestyles and the measures of success associated with careers and experienced by workers.

GRADE 2

Optimum Objective:

Given a description of an occupation, the student will describe the lifestyle most commonly associated with a worker in that occupation.

Diagnostic Objective:

Given the description of an occupation and descriptions of various lifestyles, the student will identify the lifestyle that is most commonly associated with the given occupation.

GRADE 4

Optimum Objective:

Given a definition of lifestyle and the names of five factors that influence a person's lifestyle, the student will write a description of his or her own lifestyle, using three of the five lifestyle factors.

Diagnostic Objective:

Given a description of the lifestyle of an individual and five descriptions of activities, the student will select the activity that is most appropriate for the identified lifestyle.

Goal Q: Continued

GRADE 5

Optimum Objective:

Given an occupation area, the student will describe the range of lifestyles available in occupations in the area, within a given lifestyle factor, using three or more occupations.

Diagnostic Objective:

Given groups of occupations and a factor affecting lifestyle, the student will select the group which represents the widest range of examples within the lifestyle factor.

GRADE 8

Optimum Objective:

Given the description of a lifestyle and examples of factors that determine life-style (viz., income range, culture, value system, career expectation, etc.), the student will identify the example which characterizes the given lifestyle.

Diagnostic Objective:

(Same as Optimum Objective)

GRADE 11

Optimum Objective:

Given a summary history of a person's successful career, the student will name the factor of success illustrated by the history.

Diagnostic Objective:

Given the description of a person's successful career or life-style and various definitions of success, the student will select the definition of success illustrated by the description.

THE AREA OF INVOLVEMENT IN CAREERS

"Personal involvement with the world of work, ... including other workers, ... using judgements, ... and expecting success"

Section 9: Success

- The personal, social, and economic outcomes of and influences on the world of careers

Goal R: Societal and Economic Causes and Effects

- - The student will understand the mutual interaction of occupations with society and the economic world, and will appreciate the implications of this relationship, both for the individual person and for society.

GRADE 1

Optimum Objective:

Given the description of a work related activity, the student will describe how his or her family benefits from the efforts of a worker who does the activity.

Diagnostic Objective:

Given a description of an occupation, and three benefits society receives from workers, the student will select the benefit that is related to the occupation described.

GRADE 3

Optimum Objective:

Given a societal or an economic need and the names or activities of occupations, the student will select the occupation or activity that meets the need.

Diagnostic Objective:

(Same as Optimum Objective.)

Goal R: Continued

GRADE 5

Optimum Objective:	Diagnostic Objective:
Given the name of an institution of agency which is important to society or the economic world, the student will explain the direct dependency of two occupations upon that institution or agency.	Given the names of occupations and a description of the attribute of certain occupations, the student will identify the occupation to which the attribute pertains.

GRADE 6

Optimum Objective:	Diagnostic Objective:
Given the name of an occupation, the student will describe the main societal and/or economic factor upon which the occupation most depends.	Given the name of an occupation, and examples of societal and/or economic factors, the student will identify the factor upon which the occupation most depends.

GRADE 9

Optimum Objective:	Diagnostic Objective:
Given the description of a societal and/or economic change, the name of an occupation or an occupational cluster, and descriptions of positive and negative effects, the student will identify the effect(s) most likely to result for the occupation or cluster from the given change.	(Same as Optimum Objective)

Goal R: Continued

GRADE 12

Optimum Objective:

Given the description of a major restrictive effect on an occupation, the student will describe plans for adapting to the change, in both short-range and long-range timelines, and including (re-)training, job responsibility, life-style, and career goals as factors in the plan.

Diagnostic Objective:

Given the description of a major societal, economic, or technological influence, and alternative kinds of outcomes, the student will identify the outcome that is most appropriate to the influence.

APPENDIX F

Objectives/Items Correlation Charts: Grades K-12

OBJECTIVES/ITEMS CORRELATION

Kindergarten Inventory

Obj. No.	Objective Summary	Items*
AK	Recognizes ways persons can be described	1c
EK	Recognizes actions which illustrate values	2a, 6b
GK	Matches work with item used in work	3c
IK	Identifies the activity most difficult for a kindergartner to do	7c
LK	Recognizes when children need supervision	4c
MK	Matches known persons with the help they provide	9a
OK	Recognizes illustrations of persons doing something together	5c, 10c
M1	Identifies work done by workers outside the family	8c

* Number = item number; letter = correct response

OBJECTIVES/ITEMS CORRELATION

Grade 1 Inventory

Obj. No.	Objective Summary	Items*
C1	Recognizes examples of self-sufficiency and dependency	1a, 10b
F1	Identifies items used for the good of the community	2b
I1	Selects aptitudes for given activities	3b
K1	Recognizes rewards available at a given work site	8a, 11b
M1	Identifies work done by workers outside the family	9a
N1	Identifies tasks done by workers in groups	4b
P1	Selects the likely outcome of an activity	5b
R1	Recognizes how given workers help us	6b
D2	Identifies appropriate actions in decision making	7c

* Number = item number; letter = correct response

OBJECTIVES/ITEMS CORRELATION

Grade 2 Inventory

Obj. No.	Objective Summary	Items*
A2	Recognizes types of personal characteristics	1a, 8c
D2	Identifies appropriate actions in decision making	2c
G2	Identifies the occupation appropriate to a given work site	3d, 9b
J2	Recognizes needs for school subjects	4a, 10d
L2	Selects workers who need supervisors	5b, 12c
N2	Matches occupational areas with given tasks	6d, 11c
O2	Identifies examples of helping behavior	14d
Q2	Identifies the lifestyle of a given occupation	7a, 13b
P1	Selects the likely outcome of an activity	15c
M3	Matches products to workers	16b

* Number = item number; letter = correct response

OBJECTIVES/ITEMS CORRELATION

Grade 3 Inventory

Obj. No.	Objective Summary	Items*
B3	Identifies strengths for tasks	6d, 11c
E3	Recognizes effects of attitudes	7a, 8c
H3	Matches tasks to interests and abilities	2e, 9c
K3	Identifies reasons people work	3d, 10c
M3	Matches products to workers	4e, 13b
N3	Recognizes workers who do not work alone	1a, 5d
O3	Identifies examples of positive interaction	15b, 16e
P3	Identifies effective goal activities	_____
R3	Selects occupations which meet needs	12a, 14e
D2	Identifies appropriate actions in decision making	19b
J2	Recognizes needs for school subjects	17b
L2	Selects workers who need supervisors	18e
C4	Identifies situations that can be changed	20e
I4	Identifies work needing given aptitudes	21b
J4	Recognizes which learning is done only in school	22c

* Number = item number; letter = correct response

OBJECTIVES/ITEMS CORRELATION

Grade 4 Inventory

Obj. No.	Objective Summary	Items*
A4	Selects appropriate descriptive characteristics	1a, 11b
C4	Identifies situations that can be changed	2e, 12c
G4	Recognizes occupations involved with products and services	3a, 13b
I4	Identifies work needing given aptitudes	4a, 14c
J4	Recognizes which learning is done only in school	5d, 15c
N4	Identifies things occupations have in common	6b, 16d
O4	Selects persons who cooperate to solve a problem	7b, 8d
P4	Identifies occupations of similar training, experience, and interest	9a, 17c
Q4	Matches activities to lifestyle	10e, 18e
H3	Matches tasks to interests and abilities	19d
K3	Identifies reasons people work	20a
D5	Recognizes elements in decision making	21d
R5	Matches occupations to attributes	22e

* Number = item number; letter = correct response

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OBJECTIVES/ITEMS CORRELATION

Grade 5 Inventory

Obj. No.	Objective Summary	Items*
B5	Matches behaviors with personal characteristics	1c, 11b
D5	Recognizes elements in decision making	2c, 12d
F5	Identifies conflicts of personal and community values	3a, 13a
H5	Matches occupations with familiar tasks	4d, 14b
K5	Matches personal characteristics with given tasks	5e, 6c
L5	Recognizes the responsibilities of supervised workers	15d, 16c
M5	Matches societal goals with given occupations	7e, 17d
N5	Matches worker groups with work problems	8a, 18e
Q5	Recognizes widest variety within a lifestyle factor	9e, 19c
R5	Matches occupations to attributes	10b, 20e
J6	Selects occupations needing most school work	21b, 23d
K6	Recognizes ways workers express work rewards	22c
C4	Identifies situations that can be changed	24d
G4	Recognizes occupations involved with products and services	25e

* Number = item number; letter = correct response

OBJECTIVES/ITEMS CORRELATION

Grade 6 Inventory

Obj. No.	Objective Summary	Items*
C6	Selects acceptable ways of changing a situation	1d, 13a
E6	Recognizes effects of self-concept	2d, 9b
G6	Identifies occupations by clusters	10c,14a,19b
H6	Recognizes occupations requiring given skills or qualities	3b,11d,20a
J6	Selects occupations needing most school work	15c, 21e
K6	Recognizes ways workers express work rewards	22a
L6	Identifies illustrations of work responsibilities	4b, 16a
O6	Selects solutions to interpersonal problems	5d, 17e
P6	Selects best sources of given occupational information	6a,8c,12e,23b
R6	Recognizes factors which most af[illegible] given occupations	7b, 18e
F5	Identifies conflicts of personal and community values	29b
K5	Matches personal characteristics with given tasks	30b
M5	Matches societal goals with given occupations	31b
N5	Matches worker groups with work problems	32b
B7	Identifies persons appropriate for given career activities	26e
H7	Recognizes the name of an illustrated or defined personal characteristic	28c

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Correlation: Grade 6 (continued)

I7	Matches occupations to given types of training	27c
J7	Identifies "wants" and "needs" satisfied through school education	24d
O7	Identifies positive interpersonal work skills	25d

* Number = item number; letter = correct response

OBJECTIVES/ITEMS CORRELATION

Grade 7 Inventory

Obj. No.	Objective Summary	Items*
B7	Identifies persons appropriate for given career activities	1a, 2b
C7	Selects actions which contribute to given outcomes	9a, 14b
D7	Selects factors which affected given decisions	3b, 18b
E7	Identifies self-concept and personal values in statements of life goals	10c, 15d
H7	Recognizes the name of an illustrated or defined personal characteristic	5c, 19e
I7	Matches occupations to given types of training	6e, 20c
J7	Identifies "wants" and "needs" satisfied through school education	11d, 16d
K7	Discriminates between immediate and postponed work rewards	7b, 21a
N7	Selects industries to which occupations contribute	12c, 22a
O7	Recognizes examples of positive interpersonal work skills	13b, 23c
P7	Identifies factors in selecting occupations	8b, 17d
C6	Selects acceptable ways of changing a situation	32b
E6	Recognizes effects of self-concept	31a
J6	Selects occupations needing most school work	28a
K6	Recognizes ways workers express work rewards	29e
L6	Identifies illustrations of work responsibilities	30c
O6	Selects solutions to interpersonal problems	33c

Correlation: Grade 7 (continued)

A8	Identifies persons to whom characteristics apply	27b
D8	Selects actions appropriate to plan of improvement	26d
F8	Chooses solutions for conflicts of personal, community values	24a
G8	Selects occupations appropriate to work characteristics	25b

* Number = item number; letter = correct response

OBJECTIVES/ITEMS CORRELATION

Grade 8 Inventory

Obj. No.	Objective Summary	Items*
A8	Identifies persons to whom characteristics apply	1b, 2d
D8	Selects actions appropriate to plan of improvement	3c, 21b
E8	Identifies value systems related to life goals	4e, 11b
F8	Chooses solutions for conflicts of personal, community values	12e, 36a
G8	Selects occupations appropriate to work characteristics	13e, 15b
J8	Identifies career choice helped by given school course	5d, 16e
K8	Matches work characteristics to given aspect of personal satisfaction	14c, 17b
L8	Recognizes actions which reflect worker responsibilities	6c, 18e
M8	Identifies worker contributions to society	7c,8a,19c
P8	Identifies sources of given occupational information	20c, 22c
Q8	Recognizes factors of given life-styles	9b, 10e
C7	Selects actions which contribute to given outcomes	23d
D7	Selects factors which affected given decisions	25d
H7	Recognizes the name of an illustrated or defined personal characteristic	26b
I7	Matches occupations to given types of training	27c
K7	Discriminates between immediate and postponed work rewards	28d

Correlation: Grade 8 (continued)

N7	Selects industries to which occupations contribute	24b
O7	Recognizes examples of positive interpersonal work skills	29e
P7	Identifies factors in selecting occupations	30c
D9	Recognizes characteristics of decision making	31d
I9	Identifies aptitudes for given occupations	32c
J9	Selects sources of work training or preparation	35c
K9	Identifies classifications of meanings of work	34e
N9	Selects proper sequence of jobs in an industry	33e

OBJECTIVES/ITEMS CORRELATION

Grade 9 Inventory

Obj. No.	Objective Summary	Items*
C9	Selects alternatives which provide for choice of action	1d, 10a
D9	Recognizes characteristics of decision making	6a, 11c
H9	Matches occupations with given example of personal characteristics	12b, 13d
I9	Identifies aptitudes for given occupations	7b,14d,19e
J9	Selects sources of work training or preparation	2c, 15a
K9	Identifies classifications of meanings of work	8d, 20b
N9	Selects proper sequence of jobs in an industry	16e, 21c
O9	Chooses most effective feasible means of communication	3b, 22d
P9	Selects careers which satisfy greater and lesser needs	4e,9a,17a
R9	Recognizes the effects on an occupation of a given societal or economic change	5b, 18c
A8	Identifies persons to whom characteristics apply	25e
F8	Chooses solutions for conflicts of personal, community values	26d
G8	Selects occupations appropriate to work characteristics	27a
J8	Identifies career choice helped by given school course	28a
K8	Matches work characteristics to given aspect of personal satisfaction	23d

Correlation: Grade 9 (continued)

P8	Identifies sources of given occupational information	24d
B10	Matches outcomes to personal characteristics	30a
E10	Selects expressions of expectations which go with given personal characteristics	33b
G10	Identifies functions of occupations	31d
J10	Matches school subjects with given occupational tasks	32b
L10	Matches worker responsibilities with given worker rights	29a

* Number = item number; letter = correct response

OBJECTIVES/ITEMS CORRELATION

Grade 10 Inventory

Obj. No.	Objective Summary	Items*
B10	Matches outcomes to personal characteristics	18d, 19c
D10	Identifies steps in decision making	4b, 10c
E10	Selects expressions of expectations which go with given personal characteristics	14d, 17a
F10	Identifies the conflicting personal and community values in a given situation	2a, 13d
G10	Identifies functions of occupations	1b, 6e
H10	Matches occupational areas to responses on interest inventories	12e, 16a
I10	Matches occupations with their preparation timelines	8b, 9e
J10	Matches school subjects with given occupational tasks	3e, 11c
L10	Matches worker responsibilities with given worker rights	7c, 27d
P10	Discriminates between objectives and activities in career plans	5b, 15c
H9	Matches occupations with given example of personal characteristics	23e
I9	Identifies aptitudes for given occupations	24a
J9	Selects sources of work training or preparation	21a
K9	Identifies classifications of meanings of work	20a
N9	Selects proper sequence of jobs in an industry	22e
R9	Recognizes the effects on an occupation of a given societal or economic change	25e

Correlation: Grade 10 (continued)

A11	Recognizes personal strengths	28a
C11	Selects alternatives which provide options	29b
M11	Matches work appreciations with occupations	31d
N11	Identifies names of ways workers work together	30d
O11	Recognizes examples of voluntary group work	32e
P11	Matches life goals to school preparation	26c

* Number = item number; letter = correct response

OBJECTIVES/ITEMS CORRELATION

Grade 11 Inventory

Obj. No.	Objective Summary	Items*
A11	Recognizes personal strengths	7c
C11	Selects alternatives which provide options	13d, 18d
H11	Recognizes differing levels of responsibility in given occupations	3e, 8c
J11	Matches timelines and types of preparation to given career rewards	9a, 14e
K11	Identifies rewards of work values	2c, 19c
M11	Matches work appreciations with occupations	10c, 15b
N11	Identifies names of ways workers work together	4,11a,16c
O11	Recognizes examples of voluntary group work	5c,12d,20a
P11	Matches life goals to school preparation	6d, 21b
Q11	Identifies interpretations of "success"	17e, 22c
B10	Matches outcomes to personal characteristics	1a
D10	Identifies steps in decision-making	23e
G10	Identifies functions of occupations	28c, 29c
I10	Matches occupations with their preparation timelines	25a, 26c
P10	Discriminates between objectives and activities in career plans	24e, 27a
B12	Selects effects of personal characteristic	30a
D12	Matches problem solutions to given criteria	31c, 32e

Correlation: Grade 11 (continued)

G12	Matches occupations with characteristics they require	34e, 35b
P12	Identifies activities of given phases in career selection	33a

* Number = item number; letter = correct response

OBJECTIVES/ITEMS CORRELATION

Grade 12 Inventory

Obj. No.	Objective Summary	Items*
B12	Selects effects of personal characteristic	1b, 13c
D12	Matches problem solutions to given criteria	9b, 10e
F12	Matches situations to a given personal value	11a,19b,23d
G12	Matches occupations with characteristics they require	2c, 3a
H12	Identifies lines of direct responsibility or supervision	6c, 7b
K12	Identifies categories for given work values	8a, 22a
L12	Recognizes names of illustrated worker responsibilities	4c,16d,25e
O12	Identifies leadership characteristics	5d,14d,21e
P12	Identifies activities of given phases in career selection	17d, 24e
R12	Matches outcomes to given societal, economic, or technological influences	12b,15c,20d
A11	Recognizes personal strengths	29c
H11	Recognizes differing levels of responsibility in given occupations	30b
J11	Matches timelines and types of preparation to given career rewards	31d
N11	Identifies names of ways workers work together	27e
O11	Recognizes examples of voluntary group work	32b

Correlation: Grade 12 (continued)

P11	Matches life goals to school preparation	28a
Q11	Identifies interpretations of "success"	26b, 33d

* Number = item number; letter = correct response

APPENDIX G

Items Distribution by Goal and Grade Level Charts: Grades K-12

ITEMS DISTRIBUTION BY GOAL AND GRADE

Kindergarten Inventory

Goal	Grade			All Grades
	N/A	K	1	
A		1c		1
B				
C				
D				
E		2a, 6b		2
F				
G		3c		1
H				
I		7c		1
J				
K				
L		4c		1
M		9a	8c	2
N				
O		5c, 10c		2
P				
Q				
R				
All Goals	--	9	1	10

ITEMS DISTRIBUTION BY GOAL AND GRADE

Grade 1 Inventory

Goal	Grade			All Grades
	K	1	2	
A				
B				
C		1a, 10b		2
D			7c	1
E				
F		2b		1
G				
H				
I		3b		1
J				
K		8a, 11b		2
L				
M		9a		1
N		4b		1
O				
P		5b		1
Q				
R		6b		1
All Goals	--	10	1	11

ITEMS DISTRIBUTION BY GOAL AND GRADE

Grade 2 Inventory

Goal	Grade			All Grades
	1	2	3	
A		1a, 8c		2
B				
C				
D		2c		1
E				
F				
G		3d, 9b		2
H				
I				
J		4a, 10d		2
K				
L		5b, 12c		2
M			16b	1
N		6d, 11c		2
O		14d		1
P	15c			1
Q		7a, 13b		2
R				
All Goals	1	14	1	16

ITEMS DISTRIBUTION BY GOAL AND GRADE

Grade 3 Inventory

Goal	Grade			All Grades
	2	3	4	
A				
B		6d, 11c		2
C			20e	1
D	19b			1
E		7a, 8c		2
F				
G				
H		2e, 9c		2
I			21b	1
J	17b		22c	2
K		3d, 10c		2
L	18e			1
M		4e, 13b		2
N		1a, 5d		2
O		15b, 16e		
P				
Q				
R		12a, 14e		2
All Goals	3	16	3	22

ITEMS DISTRIBUTION BY GOAL AND GRADE

Grade 4 Inventory

Goal	Grade			All Grades
	3	4	5	
A		1a, 11b		2
B				
C		2e, 12c		2
D			21d	1
E				
F				
G		3a, 13b		2
H	19d			1
I		4a, 14c		2
J		5d, 15c		2
K	20a			1
L				
M				
N		6b, 16d		2
O		7b, 8d		2
P		9a, 17c		2
Q		10e, 18e		2
R			22e	1
All Goals	2	18	2	22

ITEMS DISTRIBUTION BY GOAL AND GRADE

Grade 5 Inventory

Goal	Grade			All Grades
	4	5	6	
A				
B		1c, 11b		2
C	24d			1
D		2c, 12d		2
E				
F		3a, 13a		2
G	25e			1
H		4d, 14b		2
I				
J			21b, 23d	2
K		5e, 6c	22c	3
L		15d, 16c		2
M		7e, 17d		2
N		8a, 18e		2
O				
P				
Q		9e, 19c		2
R		10b, 20e		2
All Goals	2	20	3	25

ITEMS DISTRIBUTION BY GOAL AND GRADE

Grade 6 Inventory

Goal	Grade			All Grades
	5	6	7	
A				
B			26e	1
C		1d, 13a		2
D				
E		2d, 9b		2
F	29b			1
G		10c,14a,19b		3
H		3b,11d,20a	28c	4
I			27c	1
J		15c, 21e	24d	3
K	30b	22a		2
L		4b, 16a		2
M	31b			1
N	32b			1
O		5d, 17e	25d	3
P		6a,8c,12e,23b		4
Q				
R		7b, 18e		2
All Goals	4	23	5	32

ITEMS DISTRIBUTION BY GOAL AND GRADE

Grade 7 Inventory

Goal	Grade			All Grades
	6	7	8	
A			27b	1
B		1a, 2b		2
C	32b	9a, 14b		3
D		3b, 18b	26d	3
E	31a	4e,10c,15d		4
F			24a	1
G			25b	1
H		5c, 19e		2
I		6e, 20c		2
J	28a	11d, 16d		3
K	29e	7b, 21a		3
L	30e			1
M				
N		12c, 22a		2
O	33c	13b, 23c		3
P		8b, 17d		2
Q				
R				
All Goals	6	23	4	33

ITEMS DISTRIBUTION BY GOAL AND GRADE

Grade 8 Inventory

Goal	Grade			All Grades
	7	8	9	
A		1b, 2d		2
B				
C	23d			1
D	25d	3c, 21b	31d	4
E		4e, 11b		2
F		12e, 36a		2
G		13e, 15b		2
H	26b			1
I	27c		32c	2
J		5d, 16e	35c	3
K	28d	14c, 17b	34e	4
L		6c, 18e		2
M		7c,8a,19c		3
N	24b		33e	2
O	29e			1
P	30c	20c, 22c		3
Q		9b, 10e		2
R				
All Goals	8	23	5	36

ITEMS DISTRIBUTION BY GOAL AND GRADE

Grade 9 Inventory

Goal	Grade			All Grades
	8	9	10	
A	23e			1
B			30a	1
C		1d, 10a		2
D		6a, 11c		2
E			33b	1
F	26d			1
G	27a		31d	2
H		12b, 13d		2
I		7b,14d,19e		3
J	28a	2c, 15a	32b	4
K	24d	8d, 20b		3
L			29a	1
M				
N		16e, 21c		2
O		3b, 22d		2
P	25d	4e,9a,17a		4
Q				
R		5b, 18c		2
All Goals	6	22	5	33

ITEMS DISTRIBUTION BY GOAL AND GRADE

Grade 10 Inventory

Goal	Grade			All Grades
	9	10	11	
A			28a	1
B		18d, 19c		2
C			29b	1
D		4b, 10c		2
E		14d, 17a		2
F		2a, 13d		2
G		1b, 6e		2
H	23e	12e, 16a		3
I	24a	8b, 9e		3
J	21a	3e, 11c		3
K	20a			1
L		7c, 27d		2
M			31d	1
N	22e		30d	2
O			32e	1
P		5b, 15c	26c	3
Q				
R	25e			1
All Goals	6	20	6	32

ITEMS DISTRIBUTION BY GOAL AND GRADE

Grade 11 Inventory

Goal	Grade			All Grades
	10	11	12	
A		7c		1
B	1a		30a	2
C		13d, 18d		2
D	23e		31c, 32e	3
E				
F				
G	28c, 29c		34e, 35b	4
H		3e, 8c		2
I	25a, 26c			2
J		9a, 14e		2
K		2c, 19c		2
L				
M		10c, 15b		2
N		4b,11a,16c		3
O		5c,12d,20a		3
P	24e, 27a	6d, 21b	33a	5
Q		17e, 22c		2
R				
All Goals	8	21	6	35

ITEMS DISTRIBUTION BY GOAL AND GRADE

Grade 12 Inventory

Goal	Grade			All Grades
	11	12	N/A	
A	29c			1
B		1b, 13c		2
C				
D		9b, 10e		2
E				
F		11a,19b,23d		3
G		2c, 3a		2
H	30b	6c, 7b		3
I				
J	31d			1
K		8a,18c,22a		3
L		4c,16d,25e		3
M				
N	27e			1
O	32b	5d,14d,21e		4
P	28a	17d, 24c		3
Q	26b, 33d			2
R		12b,15c,20d		3
All Goals	8	25		33

APPENDIX H

Commentary on Administering Primary-Level Inventories

MY GENERAL IMPRESSIONS OF THE KINDERGARTEN TESTS AS GIVEN TO FIRST GRADERS ARE AS FOLLOWS:

They, in general, tend to look at the pictures instead of listening to the words. Some changes will need to be made in this area. They tend to choose pictures on the basis of their experience, in certain cases, rather than on actually listening to the question as it is read. I believe that they become somewhat confused on which pictures are being talked about at which time. Some changes must be made in the teacher's script to indicate the actual number of the question being worked on, as well as whether it is the first picture, the middle picture, or the end picture. The questions where they seem to answer on the basis of their own experiences are those which involve what was learned in kindergarten, also, questions that deal with sharing a toy, or questions that are worded "what would such-and-such-a-person do." They seem to put themselves into this situation and overlook the basic stem of the question. The children also had great difficulty in making sure that they were not checking to see what someone else had marked and in sharing responses. Perhaps this problem was compounded by the fact that we were in a room where they were sitting fairly close together. I don't know how this problem could be eliminated in the individual classroom when it happens that there are sometimes four or more children sitting at one table. I imagine that this is something that we won't find out until we actually do a pilot test with one class, but this is an area that we need to watch carefully when we are giving this test at other levels.

SOME GENERAL IMPRESSIONS ON THE FIRST GRADE INVENTORY AS TAKEN BY SECOND GRADERS

We need some improvement in the instructions as read by the teacher on the cover page to clarify what is meant by "filling in the circle." Perhaps we do need to repeat the "A," "B," or "C" for each picture, instead of just the circle above. The test went fairly rapidly. They did not seem to have too much difficulty in making the transition from "filling in circles above picture" to "filling in circles that followed numbers." They had a very good comprehension of numbers and did not seem at any time to get lost on the page.

SOME GENERAL IMPRESSIONS OF THE SECOND GRADE INVENTORY GIVEN TO THIRD GRADERS

We spent a little extra time discussing what was meant by "filling in the circle." A demonstration was given on the board. We discussed it, and I allowed questions so that I was sure that there were no mistakes in how to answer on the forms. The length of the inventory (sixteen items) seemed to be a bit much for the group working on the form 2-A. The group taking form 2-B handled this a little bit better. However, we must remember that these are third graders on a second grade inventory. Sixteen items may be a bit too much for second graders responding to the second grade inventory. It was necessary for me to not only read, but reread at least half to 2/3 of the items on both inventories. Perhaps this problem can be eliminated by rewording some of the stems or just making allowance for rereading every item when the inventories are administered in the field testing situation or the actual classroom.

APPENDIX I

CEAMS Participant Survey Instrument

MESA CAREER EDUCATION PROJECT

CEAMS Participant Survey

Thank you for helping us by pilot testing the objectives-based inventories in career education. The outcomes of this effort will assist us to generate data regarding student performance on the objectives. We are asking that you, as a participant, help us to benefit further by providing your reactions to the following items.

Directions: Please place a check mark (✔) in the box of the response which is closest to how you feel about each of the following statements:

	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
1. I could use the record of my students' performance to help them achieve the goals and objectives in career education.					
2. A continuous-progress learning report to assist teachers in monitoring student mastery in career education should be provided to teachers.					
3. Teachers would favor the correlating of student objectives with existing materials, so that selecting an outcome would also mean being provided with a guide to resources for that outcome.					
4. I feel that the District should field test this system before deciding to implement it on a District-wide basis.					

5. I would like to be provided with a report regarding my students' mastery of each of the objectives of the inventories.

YES____ NO____

6. Do you have any further comments?_____

_____

Date_____ School_____ Participant_____

781009 CEAMS 4.0/1

APPENDIX J

Results of Participant Survey

PARTICIPANT SURVEY RESPONSE PERCENTAGES

By Inventory and Total

Item 1: "I could use the record of my students' performance to help them achieve the goals and objectives in career education."

Inventory	"Strongly Agree"	"Agree"	"No Opinion"	"Disagree"	"Strongly Disagree"	Did Not Respond
K	11%	67%	11%	--	11%	--
1	22	67	11	--	--	--
2	44	33	11	11%	--	--
4	20	60	10	10	--	--
5	11	78	--	--	11	--
7	22	44	22	--	11	--
9	22	78	--	--	--	--
10	11	33	--	33	--	22%
12	11	67	22	--	--	--
All Grades	20%	58%	10%	6%	4%	2%

781120 CEAMS (n = 10 for grade 4, 9 for others; 82 total)

PARTICIPANT SURVEY RESPONSE PERCENTAGES

By Inventory and Total

Item 2: "A continuous-progress learning report to assist teachers in monitoring student mastery in career education should be provided to teachers."

Grade	"Strongly Agree"	"Agree"	"No Opinion"	"Disagree"	"Strongly Disagree"	Did Not Respond
K	--	78%	11%	--	11%	--
1	22%	22%	56	--	--	--
2	33	22	33	11%	--	--
4	10	60	20	10	--	--
5	--	67	22	11	--	--
7	22	67	--	11	--	--
9	--	67	22	11	--	--
10	11	22	11	33	--	22%
12	--	78	22	--	--	--
All Grades	11%	54%	22%	10%	1%	2%

781120 CEAMS (n = 10 for grade 4, 9 for others; 82 total)

PARTICIPANT SURVEY RESPONSE PERCENTAGES

By Inventory and Total

Item 3: "Teachers would favor the correlating of student objectives with existing materials, so that selecting an outcome would also mean being provided with a guide to resources for that outcome."

Grade	"Strongly Agree"	"Agree"	"No Opinion"	"Disagree"	Disagree"	Did Not Respond
K	11%	67%	--	--	11%	11%
1	33	44	11%	--	--	11
2	33	44	22	--	--	--
4	50	40	10	--	--	--
5	11	89	--	--	--	--
7	33	67	--	--	--	--
9	22	67	11	--	--	--
10	11	22	33	11%	--	22
12	22	44	33	--	--	--
All Grades	26%	54%	13%	1%	1%	5%

781120 CEAMS (n = 10 for grade 4, 9 for others; 82 total)

PARTICIPANT SURVEY RESPONSE PERCENTAGES

By Inventory and Total

Item 4: "I feel that the District should field test this system before deciding to implement it on a District-wide basis."

Grade	"Strongly Agree"	"Agree"	"No Opinion"	"Disagree"	"Strongly Disagree"	Did Not Respond
K	44%	44%	11%	--	--	--
1	44	33	22	--	--	--
2	33	67	--	--	--	--
4	80	20	--	--	--	--
5	56	33	--	--	--	11%
7	67	33	--	--	--	--
9	44	56	--	--	--	--
10	44	11	11	--	--	33
12	78	22	--	--	--	--
All Grades	55%	35%	5%	--	--	5%

781120 (n = 10 for grade 4, 9 for others: 82 total)

PARTICIPANT SURVEY RESPONSE PERCENTAGES

By Inventory and Total

Item 5: "I would like to be provided with a report regarding my students' mastery of each of the objectives of the inventories.

Grade	"Yes"	"No"	Did Not Respond
K	89%	--	11%
1	100	--	--
2	100	--	--
4	90	--	10
5	100	--	--
7	100	--	--
9	100	--	--
10	44	33%	22
12	89	--	11
All Grades	90%	4%	6%

781120 CEAMS (n = 10 for grade 4, 9 for others; 82 total)

SOLICITED COMMENTS ON PARTICIPANT SURVEY

Number by Subject Area and by Grade Level

Grade Level*	Subject Area of Comment					Tota by Grad Leve
	Inventory Instrument			Testing Process	General	
	Specific Items	Construction	General			
K	4	1	3	0	0	
1	3	0	0	2	1	
2	0	0	0	1	1	
4	2	5	6	3	1	1
5	5	7	1	3	1	1
7	4	4	1	0	0	
9	0	1	1	0	0	
10	2	2	1	0	2	
12	2	0	1	2	1	
Totals by Type	22	20	14	11	7	7
	56					

81130 CEAMS 4.0

Grades 3, 6, 8, and 11 not included in sample

SOLICITED COMMENTS ON PARTICIPANT SURVEY

Outline of Subjects, by Type

Inventory Instrument

- Specific Items: "ambiguous,"* "subjective,"* "too difficult"
- Construction: "too wordy,"* "too high reading level,"* "not enough 'money' items," "need less sexism," "skills too high"
- General: "waste of time," "items inappropriate to career education," "confusing," "interesting"

Testing Process

- "Are these goals in the K-6 learnings chart?"
- "Went nicely."
- "Students never 'bubbled' before."
- "Students enjoyed it."
- "Could it be read aloud?"
- (Advisable to) "personally contact teachers"
- "Teachers shouldn't take it (inventory) with students."

General

- "Want more resources"
- "Already accountable for too much"
- "Piloted (similar) units before"
- "No time for extensive career education in lower grades"
- "Not applicable"

781130 CEAMS 4.0

* = Most frequent subjects (five or more comments, each)

APPENDIX K

Student Profile of Accomplishment in Career Education

STUDENT PROFILE OF ACCOMPLISHMENT IN CAREER EDUCATION

Student No. _____

Student Name _____, _____
(last) (first) (MI)

Goal	Grade Level													Pctg. of Goal Accom.
	K	1	2	3	4	5	6	7	8	9	10	11	12	
A														
B														
C														
D														
E														
F														
G														
H														
I														
J														
K														
L														
M														
N														
O														
P														
Q														
R														
Pctg. of Objs. Mast'd.														

STUDENT PROFILE OF ACCOMPLISHMENT IN CAREER EDUCATION

Directions for Completion

1. A profile should be prepared for each student, upon initial entry to the school system, showing student number, name (last, first, middle initial), and entry date.
2. The upper portion of the Goal/Grade (Objective) cell should reflect the date (month/day/year) on which the student was first administered assessment material for that specific objective.

   ex.: $C\ \frac{7}{\boxed{11/14/78}}$ = Assessment on Objective C7 first administered on 11-14-78.

3. The lower portion of the Goal/Grade (Objective) cell should reflect the date (month/day/year) on which the student mastered the specific objective. It is important to remember that mastery date may not be equivalent to the date of first assessment.

   ex.: $C\ \frac{7}{\boxed{\begin{array}{c}11/14/78\\ \hline 1/15/79\end{array}}}$ = Student mastered Objective C7 on 1-15-79.

4. When the dates of first assessment and mastery have been recorded in a cell, that cell should be filled with a light color (ex. yellow) for quick identification of Goal/Grade (Objective) mastery.

   ex.: $C\ \frac{7}{\boxed{\begin{array}{c}11/14/78\\ \hline 1/15/79\end{array}}}$ = Color - highlighting of mastery of Objective C7.

APPENDIX L

Results by Individual Student

RESULTS BY INDIVIDUAL STUDENT

Contents

Exhibit 1 -- Photocopy of printout of program "Mastery" for one class, which displays the performance of individual students on the objectives of the inventory, as follows:

- Objectives tested (letter/numeral codes, titles)
- Identity of objectives mastered ("x"s)
- Number and percentage of objectives mastered (second and first columns after each name)

Exhibit 2 -- "Student Profile of Accomplishment in Career Education," to form a portion of each student's permanent record, to which will be posted the following:

- Date of initial testing on each objective (upper half of each divided "cell" of the matrix)
- Date of mastery of each objective (lower half of each divided "cell" of the matrix)

CRITERION-REFERENCE TESTING — MASTERY — TTCR90

TEST 507 DIST 00 SCHOOL 57 GRADE 7 TEACHER 2112 PERIOD 00 DATES- PRETEST 11/14/78 POSTTEST / /

x = MASTERY

x	#	B 7 - G R P S & P R B S	C 7 - G V N - O U T C M	D 7 - F C T - D E - S N	E 7 - E X P R S C V A L	H 7 - P R S - C H A R -	I 7 - R Q D - T R N G -	J 7 - N E E D S & S C H	K 7 - I M E D - R W D S	N 7 - I N D U S T R S -	O 7 - P O S - I N P R S	P 7 - S E L - O C C U P	C 6 - C H A N G I N G -	E 6 - S L F - C N C P T	J 6 - M O S K - S A T H L	K 6 - W R K - R E S B F	L 6 - W R K S L - P R B S	O 6 - P R S - - P H A Y S	A 8 - C D M L - C H A R -	B 8 - S E L - A C T S -	F 8 - V A L L - C O N F L	G 8 - W R K - C H A R -
	52.38 11	x	x	x		x							x	x		x	x		x		x	x
	61.90 13		x			x		x				x	x	x	x	x	x		x	x	x	x
	33.33 7			x		x		x	x				x	x					x			
	28.57 6	x									x				x		x	x	x			
	28.57 6							x				x	x		x	x				x		
	52.38 11	x		x		x		x				x	x	x	x		x			x		
	42.85 9		x					x				x			x	x		x	x	x		x
	23.80 5	x				x									x			x	x			
	23.80 5		x	x					x					x					x			
	14.28 3												x						x			x
	38.09 8			x				x	x			x	x					x	x	x		
	19.04 4							x					x		x							x
	14.28 3											x			x		x					
	9.52 2		x					x														
	38.09 8	x	x									x		x		x		x	x	x		
	38.09 8	x	x						x				x			x			x	x		x
	47.61 10	x							x	x		x		x	x	x	x		x			x
	23.80 5		x		x													x	x	x		
	33.33 7		x			x		x					x			x	x			x		
	23.80 5			x				x		x					x					x		
	57.14 12	x	x		x			x	x	x				x	x	x			x	x		x
	38.09 8	x	x								x			x	x		x		x	x		
	38.09 8		x			x				x		x	x	x	x							
	28.57 6					x				x		x	x		x			x				
	66.66 14	x	x	x	x			x	x			x	x	x		x	x	x	x	x		

NAMES DELETED

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STUDENT PROFILE OF ACCOMPLISHMENT IN CAREER EDUCATION

Student No. (DELETED)

Student Name (NAME DELETED), _____ (last) (first) (MI)

Goal	Grade Level													Pctg. of Goal Accom.
	K	1	2	3	4	5	6	7	8	9	10	11	12	
A									11/4/78 11/4/78					20.0 %
B								11/4/78 11/4/78						20.0
C							11/4/78	11/4/78 11/4/78						16.6
D								11/4/78	11/4/78 11/4/78					14.2
E							11/4/78 11/4/78	11/4/78 11/4/78						33.3
F									11/4/78					0
G									11/4/78 11/4/78					14.2
H								11/4/78						0
I								11/4/78						0
J							11/4/78 11/4/78	11/4/78 11/4/78						25.0
K							11/4/78 11/4/78	11/4/78 11/4/78						22.2
L							11/4/78							0
M														
N								11/4/78 11/4/78						12.5
O							11/4/78	11/4/78						0
P								11/4/78						0
Q														
R														
Pctg. of Objs. Mast'd.	%						30.0	54.5	27.3					

STUDENT PROFILE OF ACCOMPLISHMENT IN CAREER EDUCATION

Directions for Completion

1. A profile should be prepared for each student, upon initial entry to the school system, showing student number, name (last, first, middle initial), and entry date.
2. The upper portion of the Goal/Grade (Objective) cell should reflect the date (month/day/year) on which the student was first administered assessment material for that specific objective.

ex.: $C\ \frac{7}{11/14/78}$ = Assessment on Objective C7 first administered on 11-14-78.

3. The lower portion of the Goal/Grade (Objective) cell should reflect the date (month/day/year) on which the student mastered the specific objective. It is important to remember that mastery date may not be equivalent to the date of first assessment.

ex.: $C\ \frac{7}{\frac{11/14/78}{1/15/79}}$ = Student mastered Objective C7 on 1-15-79.

4. When the dates of first assessment and mastery have been recorded in a cell, that cell should be filled with a light color (ex. yellow) for quick identification of Goal/Grade (Objective) mastery.

ex.: $C\ \frac{7}{\frac{11/14/78}{1/15/79}}$ = Color - highlighting of mastery of Objective C7.

STUDENT PROFILE OF ACCOMPLISHMENT IN CAREER EDUCATION

Student No. (DELETED)

Student Name (NAME DELETED), _____ (MI)
(last) (first)

Goal	Grade Level													Pctg. of Goal Accom.
	K	1	2	3	4	5	6	7	8	9	10	11	12	
A	11/19/71 11/19/71		9/15/73 9/15/73		10/3/75 10/3/75				11/14/78 11/14/78					80.0 %
B				11/1/74 10/3/75		9/28/76 9/28/76		11/14/78 11/14/78						60.0
C		10/20/72 10/20/72			10/3/75 10/3/75		10/15/77 10/15/77	11/14/78 11/14/78						66.6
D			9/15/73 9/15/73			9/28/76 12/2/76		11/14/78	11/14/78 11/14/78					42.8
E	11/19/71 11/19/71			11/1/74 11/1/74			10/15/77 10/15/77	11/14/78 11/14/78						50.0
F		10/20/72 10/20/72				11/16/75 12/2/75			11/14/78					40.0
G	11/19/71 10/20/72		9/15/73 9/15/73		10/3/75 10/3/75		10/15/77 10/15/77		11/14/78 11/14/78					71.4
H				11/1/74 11/1/74		9/28/76 9/28/76	10/15/77	11/14/78						25.0
I	11/19/71 11/19/71	10/20/72 10/20/72			10/3/75 10/3/75			11/14/78						50.0
J			9/15/73 4/5/74		10/3/75 10/3/75		10/15/77 10/15/77	11/14/78 11/14/78						50.0
K		10/20/72 11/3/73		11/1/74 3/20/75		9/28/76 3/2/77	10/15/77 12/6/77	11/14/78 11/14/78						55.5
L	11/19/71 11/19/71		9/15/73 9/15/73			9/28/76 9/28/76	10/15/77 11/9/77							57.1
M	11/19/71 11/19/71	10/20/72 10/20/72		11/1/74 2/11/75		9/28/76 9/28/76								66.6
N		10/20/72 10/20/72	9/15/73 9/15/73	11/1/74 10/3/75	10/3/75 10/3/75	9/28/76 9/28/76		11/14/78 11/14/78						75.0
O	11/19/71 11/19/71		9/15/73 4/5/74	11/1/74 11/1/74	10/3/75 10/3/75		10/15/77 10/15/77	11/14/78						55.5
P		10/20/72 11/1/74		11/1/74 11/1/74	10/3/75 10/3/75		10/15/77 10/15/77	11/14/78						40.0
Q			9/15/73 9/15/73		10/3/75 10/3/75	11/19/76 5/3/76								60.0
R		10/20/72 10/20/72		11/1/74 11/1/74		9/28/76 9/28/76	10/15/77							50.0
Pctg. of Objs. Mast'd.	100 %	100	100	100	100	100	80.0	54.5	27.3					

APPENDIX M

Results by Class

RESULTS BY CLASS

Contents

Exhibit 3 -- Photocopy of printout of program "Mastery" for one class, which displays the performance of all students in a class on the objectives of the inventory, as follows:

- Objectives tested (letter/numeral codes, titles)
- Number of students who mastered each objective (lower numerals beneath each objective code)
- Percentage of students who mastered each objective (decimal beneath each objective code)
- Number of students in class to whom inventory was administered (whole numerals at left-hand margin)

Exhibit 4 -- Photocopy of printout of program "Summary and Gain" for one class, which displays the summary of the performance of all students in a class, as follows:

- Percentage and number of items answered correctly (totals of columns A and B)
- Percentage and number of objectives mastered (totals of columns O and P)

Exhibits 5 -- "Average Class Performance on Items and Objectives," examples for all classes to which each inventory was administered, displaying the number and percentage of items correct and objectives mastered, for grades 3, 6, and 8

CR03 CRITERION-REFERENCE TESTING S U M M A R Y AND G A I N OBJECTIVE/ITEMS CLASS

TEST 507 DIST 00 SCHOOL 57 GRADE 7 TEACHER 2112 PERIOD 00 PRETEST 11/14/78 POSTTEST / /

STUDENT NAME	I-D	INDIVIDUAL ITEMS PRETEST RIGHT %	RIGHT TOT	WRONG TOT	N-A	INDIVIDUAL ITEMS POSTTEST RIGHT %	RIGHT TOT	WRONG TOT	N-A	GAIN INDIVID-ITEMS %	%POSS	TOT	GAIN OBJEC/CONCEPT %	%POSS	TOT	OBJECTIVE CONCEPT PRETEST MASTERY %	MASTERY TOT	NOMAS TOT	N-A	POSTT MASTERY %	MASTERY TOT
NAMES DELETED		63.6	21	12												52.3	11	10			
		72.7	24	9												61.9	13	8			
		54.5	18	15												33.3	7	14			
		42.4	14	19												28.5	6	15			
		42.4	14	19												28.5	6	15			
		57.5	19	14												52.3	11	10			
		54.5	18	15												42.8	9	12			
		42.4	14	19												23.8	5	16			
		45.4	15	18												23.8	5	16			
		33.3	11	22												14.2	3	18			
		54.5	18	15												38.0	8	13			
		33.3	11	22												19.0	4	17			
		36.3	12	21												14.2	3	18			
		21.2	7	26												9.5	2	19			
		57.5	19	14												38.0	8	13			
		45.4	15	18												38.0	8	13			
		60.6	20	13												47.6	10	11			
		33.3	11	22												23.8	5	16			
		57.5	19	14												33.3	7	14			
		36.3	12	21												23.8	5	16			
		72.7	24	9												57.1	12	9			
		51.5	17	16												38.0	8	13			
		51.5	17	16												38.0	8	13			
		42.4	14	19												28.5	6	15			
		78.7	26	4												66.6	14	7			
AVERAGE OF COLUMN		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
		49.6	16.4	16.4	.1									35.0	7.3	13.6					
																					U

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CRITERION-REFERENCE TESTING — M A S T E R Y — TTCR90

TEST 507 DIST 00 SCHOOL 57 GRADE 7 TEACHER 2112 PERIOD 00 DATES- PRETEST 11/14/78 POSTTEST / /

			B7-GRPS&PRBS		C7-GVN-OUTCM		D7-FCT-DECSN		E7-EXPRS-VAL		H7-PRS-CHAR-		I7-RQD-TRNG-		J7-NEEDS&SCH		K7-IMED-RWD	
OBJ/CON ST. MAST		PERCENT	40.0		52.0		28.0		12.0		32.0				48.0		28.0	
PRE	25 POST	TOTAL	10	0	13	0	7	0	3	0	8	0	0	0	12	0	7	0
			N7-INDUSTRS-		O7-POS-INPRS		P7-SEL-OCCUP		C6-CHANGING-		E6-SLF-CNCPT		J6-MOST-SCHL		K6-WRK-SATSF		L6-WRK-RESE	
OBJ/CON ST. MAST		PERCENT	20.0		8.0		44.0		52.0		44.0		52.0		48.0		36.0	
PRE	25 POST	TOTAL	5	0	2	0	11	0	13	0	11	0	13	0	12	0	9	0
			O6-PRSL-PRBS		A8-COM-CHAR-		D8-SEL-ACTS-		F8-VAL-CONFL		G8-WRK-CHAR-							
OBJ/CON ST. MAST		PERCENT	36.0		64.0		52.0		8.0		32.0							
PRE	25 POST	TOTAL	9	0	16	0	13	0	2	0	8	0	0	0	0	0	0	0

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AVERAGE CLASS PERFORMANCE ON ITEMS AND OBJECTIVES*

Grade 3 Inventory

School	Teacher	No. Ss	Average No. Items	Average Pctg. Items	Average No. Objs.	Average Pctg. Objs.
Adams	Maughan, D.	25	10.1	46.0%	4.6	32.8%
Adams	Carson, R.	26	10.8	49.4	4.7	33.7
Field	Taylor, J.	31	12.8	58.3	5.7	41.2
Holmes	Wilson, S.	17	12.6	57.4	5.9	42.4
Jefferson	Bohn, F.	19	11.5	52.3	5.2	37.4
Jefferson	Ferguson, A.	23	10.9	49.8	4.8	34.7
Longfellow	Bassford, S.	24	11.9	54.1	5.4	38.9
Longfellow	Black, G.	24	9.8	44.8	4.3	30.9
MacArthur	Ray, J.	27	12.5	56.9	5.8	42.0
Redbird	Benge, D.	17	12.4	56.4	5.5	39.9
Roosevelt	Foote, V.	24	12.1	55.2	5.6	40.0
Washington	Hanson, M.	23	11.2	51.1	4.9	35.4
Washington	Heaton, J.	25	13.8	63.1	7.1	51.3
Washington	Vaughan, M.	25	13.0	59.2	6.0	43.4
Whitman	Tupper, D.	23	11.1	50.7	5.1	36.9
AVERAGES		23.5	11.8	53.6%	5.4	38.7%

* Performance = Number and percentage of items answered correctly and objectives mastered.

AVERAGE CLASS PERFORMANCE ON ITEMS AND OBJECTIVES*

Grade 6 Inventory

School	Teacher	No. Ss	Average No. Items	Average Pctg. Items	Average No. Objs.	Average Pctg. Objs.
Eisenhower	Tolar, K.	26	16.0	50.1%	7.2	38.0%
Field	Schweitzer, J.	24	17.1	53.7	7.5	39.6
Hale	Smolkovich, G.	29	16.1	50.5	6.8	36.2
Jefferson	Elmer, H.	27	14.7	46.1	6.4	34.1
Jefferson	Jenkins, D.	28	14.1	44.3	5.5	29.4
Keller	Nelson, E.	23	16.4	51.3	7.3	38.9
Longfellow	Pearce, R.	32	16.1	50.5	6.8	35.8
Redbird	Calvert, M.	21	14.5	45.4	5.9	31.1
Salk	Needel, L.	29	16.3	51.0	6.8	36.1
Stevenson	Ory, T.	32	13.6	42.6	5.3	28.3
Washington	Bryant, V.	22	17.6	55.2	7.5	39.4
Washington	Casson, D.	25	14.6	45.7	6.6	34.7
Washington	Moya, A.	27	15.4	48.1	6.3	33.3
Webster	Scott, D.	18	15.0	46.8	6.6	35.0
Whitman	France, R.	24	15.4	48.3	6.5	34.2
AVERAGES		25.8	15.5	48.6%	6.6	34.9%

* Performance = Number and percentage of items answered correctly and objectives mastered.

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AVERAGE CLASS PERFORMANCE ON ITEMS AND OBJECTIVES*

Grade 8 Inventory

School	Teacher	No. Ss	Average No. Items	Average Pctg. Items	Average No. Objs.	Average Pctg. Objs.
Carson J.H.S.	Bergquist, S.	26	15.8	44.1%	7.6	31.8%
Carson J.H.S.	Betz, W.	20	11.8	32.9	5.6	23.3
Carson J.H.S.	Kendrick, R.	28	20.4	56.8	10.5	44.0
Carson J.H.S.	Kendrick R.	15	11.0	30.5	5.1	21.3
Carson J.H.S.	Moore, L.	21	14.7	41.0	7.0	29.1
Carson J.H.S.	Moore, L.	24	17.3	48.1	8.4	35.2
Carson J.H.S.	Moore, L.	22	14.0	39.1	6.6	27.8
Carson J.H.S.	Tininenko, N.	28	14.9	41.5	7.1	29.6
Mesa J.H.S,	Godell, J.	19	12.0	33.5	4.8	20.3
Poston J.H.S.	Emberlin, B.	27	16.7	46.5	8.2	34.4
Poston J.H.S.	Miles, L.	29	17.1	47.6	8.5	35.7
Poston J.H.S.	Peplow, P.	22	11.9	33.0	5.1	21.4
Poston J.H.S.	Peplow, P.	21	12.3	34.3	5.3	22.4
Powell J.H.S.	Hughes, D.	31	16.5	46.0	7.7	32.3
Powell J.H.S.	Stokes, R.	27	16.5	46.0	7.7	32.3
AVERAGES		24.0	14.9	41.4%	7.0	31.5%

*Performance = Number and percentage of items answered correctly and objectives mastered.

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APPENDIX N

Results by Grade

RESULTS BY GRADE

Contents

Exhibit 6 -- "Average Class Performance on Items and Objectives by Grade Level of Inventory," a chart which displays the average numbers and percentages of items correct and objectives mastered, for each of the inventory grade levels

Exhibit 7 -- Students in One Grade Mastering Objectives, by Goal, photocopy of printout of a summary from the program "Mastery," showing the number and percentage of the students mastering each of the objectives of the inventory, as follows:

- Objectives tested (letter/numeral codes, titles)
- Number of students who mastered each objective (lower numerals beneath each objective code)
- Percentage of students who mastered each objective (decimal beneath each objective code)
- Number of students in class to whom inventory was administered (whole numerals at left-hand margin)

EXHIBITS 8 -- "Students Mastering Objectives by Goal: Number and Percentages," charts for each one of inventories, on all grade levels, which display the number and the percentage of the students mastering each of the objectives, as well as for each goal represented

AVERAGE CLASS PERFORMANCE ON ITEMS AND OBJECTIVES BY GRADE OF INVENTORY*

Inventory Grade	No. of Classes	No. of Stdts.	Items		Objectives	
			Avg. No.	Avg. Pctg.	Avg. No.	Avg. Pctg.
K	9	205	6.7	67.4%	4.8	59.8%
1	9	201	8.3	75.7	6.4	70.8
2	8	194	9.1	56.9	4.4	44.8
3	15	353	11.8	53.6	5.4	39.0
4	9	282	10.7	48.7	4.3	34.4
5	9	252	12.3	49.3	4.3	31.2
6	15	387	15.5	48.6	6.6	34.8
7	9	247	15.5	47.0	6.9	32.9
8	15	360	14.9	41.4	7.0	31.3
9	9	243	14.0	42.6	6.1	29.1
10**	9	259	13.8	41.8	7.1	31.5
11	15	364	15.3	43.8	5.4	28.7
12	9	217	13.2	41.6	3.6	22.5
Totals	141	3564				
Averages			12.4	50.6%	5.6	37.8%

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* Performance = Average numbers and percentages of items

** Values derived from partial totals and objectives

CRITERION-REFERENCE TESTING — M A S T E R Y — TTCR90

TEST 507 DIST — SCHOOL — GRADE — TEACHER — PERIOD — DATES- PRETEST 11/14/78 — POSTTEST / /

07																					
GRADE			B7-GRPS&PRBS		C7-GVN-OUTCM		D7-FCT-DECSN		E7-EXPRS-VAL		H7-PRS-CHAR-		I7-RQD-TRNG-		J7-NEEDS&SCH		K7-IMED-RWD			
OBJ/CON ST. MAST		PERCENT	29.1		40.8		12.9		10.1		32.3		12.9		48.5		17.8			
PRE 247 POST		TOTAL	72	0	101	0	32	0	25	0	80	0	32	0	120	0	44	0		
GRADE			N7-INDUSTRS-		O7-POS-INPRS		P7-SEL-OCCUP		C6-CHANGING-		E6-SLF-CNCPT		J6-MOST-SCHL		K6-WRK-SATSF		L6-WRK-RESB			
OBJ/CON ST. MAST		PERCENT	12.1		11.3		23.8		54.2		48.9		44.5		52.2		42.9			
PRE 247 POST		TOTAL	30	0	28	0	59	0	134	0	121	0	110	0	129	0	106	0		
GRADE			O6-PRSL-PRBS		A8-COM-CHAR-		D8-SEL-ACTS-		F8-VAL-CONFL		G8-WRK-CHAR-									
OBJ/CON ST. MAST		PERCENT	35.2		61.1		45.3		25.9		29.1									
PRE 247 POST		TOTAL	87	0	151	0	112	0	64	0	72	0	0	0	0	0	0	0		

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STUDENTS MASTERING OBJECTIVES BY GOAL: PERCENTAGES AND NUMBERS

Kindergarten Inventory

Goal	Grade Level of Objectives						Avg.* % by Goal	Duplicated Total No.
	N/A		K		1			
	%	No.	%	No.	%	No.		
A			64.1	129			64.1	129
B								
C								
D								
E			73.6	148			73.6	148
F								
G			74.6	150			74.6	150
H								
I			69.1	139			69.1	139
J								
K								
L			93.5	188			93.5	188
M			22.8	46	19.4	39	21.1	85
N								
O			61.1	123			61.1	123
P								
Q								
R								
Totals		N/A		923		39		962
Avg.	N/A		65.5		19.4		59.8	

781117 CEAMS KFT (n = 201)

* "Avg." column not additive, due to rounding

STUDENTS MASTERING OBJECTIVES BY GOAL: PERCENTAGES AND NUMBERS

Grade 1 Inventory

Goal	Grade Level of Objectives						Avg.* % by Goal	Duplicated Total No.
	K		1		2			
	%	No.	%	No.	%	No.		
A								
B								
C			55.1	108			55.1	108
D					81.6	160	81.6	160
E								
F			66.8	131			66.8	131
G								
H								
I			54.0	106			54.0	106
J								
K			76.0	149			76.0	149
L								
M			84.6	166			84.6	166
N			72.9	143			72.9	143
O								
P			71.4	140			71.4	140
Q								
R			74.4	146			74.4	146
Totals		N/A		1089		160		1249
Avg.	N/A		69.4		81.6		70.8	

781117 CEAMS 1FT (n = 196)

* "Avg." column not additive, due to rounding

STUDENTS MASTERING OBJECTIVES BY GOAL: PERCENTAGES AND NUMBERS

Grade 2 Inventory

Goal	Grade Level of Objectives						Avg.* % by Goal	Duplicated Total No.
	1		2		3			
	%	No.	%	No.	%	No.		
A			29.8	58			29.8	58
B								
C								
D			30.9	60			30.9	60
E								
F								
G			44.3	86			44.3	86
H								
I								
J			17.0	33			17.0	33
K								
L			31.9	62			31.9	62
M					64.4	125	64.4	125
N			32.9	64			32.9	64
O			76.2	148			76.2	148
P	87.1	169					87.1	169
Q			34.0	66			34.0	66
R								
Totals		169		577		125		871
Avg.	87.1		37.1		64.4		44.8	

781115 CEAMS 2FT (n = 194)

* "Avg." column not additive, due to rounding

STUDENTS MASTERING OBJECTIVES BY GOAL: PERCENTAGES AND NUMBERS

Grade 3 Inventory

Goal	Grade Level of Objectives						Avg.* % by Goal	Duplicated Total No.
	2		3		4			
	%	No.	%	No.	%	No.		
A								
B			29.6	102			29.6	102
C					63.9	220	63.9	220
D	34.8	120					34.8	120
E			43.8	151			43.8	151
F								
G								
H			33.4	115			33.4	115
I					43.6	150	43.6	150
J	39.5	136			14.8	51	27.1	187
K			27.3	94			27.3	94
L	48.2	166					48.2	166
M			31.1	107			31.1	107
N			64.2	221			64.2	221
O			52.3	180			52.3	180
P								
Q								
R			20.0	69			20.0	69
Totals		422		1039		421		1882
Avg.	40.8		37.7		40.7		39.0	

781115 CEAMS 3FT (n = 344)

* "Avg." column not additive, due to rounding

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STUDENTS MASTERING OBJECTIVES BY GOAL: PERCENTAGES AND NUMBERS

Grade 4 Inventory

Goal	Grade Level of Objectives						Avg.* % by Goal	Duplicated Total No.
	3		4		5			
	%	No.	%	No.	%	No.		
A			26.4	74			26.4	74
B								
C			11.7	33			11.7	33
D					55.3	155	55.3	155
E								
F								
G			15.7	44			15.7	44
H	55.0	154					55.0	154
I			43.9	123			43.9	123
J			27.1	76			27.1	76
K	56.0	157					56.0	157
L								
M								
N			37.1	104			37.1	104
O			42.1	118			42.1	118
P			25.3	71			25.3	71
Q			36.0	101			36.0	101
R					15.3	43	15.3	43
Totals		311		744		198		1253
Avg.	55.5		29.5		35.3		34.4	

781115 CEAMS 4FT (n = 280)

* "Avg." column not additive, due to rounding

STUDENTS MASTERING OBJECTIVES BY GOAL: PERCENTAGES AND NUMBERS

Grade 5 Inventory

Goal	Grade Level of Objectives						Avg.* % by Goal	Duplicated Total No.
	4		5		6			
	%	No.	%	No.	%	No.		
A								
B			31.0	78			31.0	78
C	49.4	124					49.4	124
D			44.6	112			44.6	112
E								
F			21.9	55			21.9	55
G	19.1	48					19.1	48
H			24.7	62			24.7	62
I								
J					25.4	64	25.4	64
K			37.0	93	58.1	146	47.6	239
L			25.4	64			25.4	64
M			41.8	105			41.8	105
N			15.9	40			15.9	40
O								
P								
Q			11.5	29			11.5	29
R			31.0	78			31.0	78
Totals		172		716		210		1098
Avg.	34.2		28.5		41.8		31.2	

781117 CEAMS 5FT (n = 251)

* "Avg." column not additive, due to rounding

STUDENTS MASTERING OBJECTIVES BY GOAL: PERCENTAGES AND NUMBERS

Grade 6 Inventory

Goal	Grade Level of Objectives						Avg. * % by Goal	Duplicated Total No.
	5		6		7			
	%	No.	%	No.	%	No.		
A								
B					73.6	279	73.6	279
C			39.8	151			39.8	151
D								
E			46.7	177			46.7	177
F	21.6	82					21.6	82
G			6.5	25			6.5	25
H			13.1	50	44.8	170	28.9	220
I					38.2	145	38.2	145
J			35.0	133	49.3	187	42.1	320
K	19.2	73	76.5	290			47.8	363
L			43.5	165			43.5	165
M	18.9	72					18.9	72
N	17.6	67					17.6	67
O			40.6	154	59.3	225	49.9	379
P			3.1	12			3.1	12
Q								
R			14.2	54			14.2	54
Totals		294		1211		1006		2511
Avg.	19.3		31.9		53.0		34.8	

781115 CEAMS 6FT (n = 379)

* "Avg." column not additive, due to rounding

STUDENTS MASTERING OBJECTIVES BY GOAL: PERCENTAGES AND NUMBERS

Grade 7 Inventory

Goal	Grade Level of Objectives						Avg.* % by Goal	Duplicated Total No.
	6		7		8			
	%	No.	%	No.	%	No.		
A					61.1	151	61.1	151
B			29.1	72			29.1	72
C	54.2	134	40.8	101			47.5	235
D			12.9	32	45.3	112	29.1	144
E	48.9	121	10.1	25			29.5	146
F					25.9	64	25.9	64
G					29.1	72	29.1	72
H			32.3	80			32.3	80
I			12.9	32			12.9	32
J	44.5	110	48.5	120			46.5	230
K	52.2	129	17.8	44			35.0	173
L	42.9	106					42.9	106
M								
N			12.1	30			12.1	30
O	35.2	87	11.3	28			23.2	115
P			23.8	59			23.8	59
Q								
R								
Totals		687		623		399		1709
Avg.	46.3		22.9		40.4		32.9	

781117 CEAMS 7FT (n = 247)

* "Avg." column not additive, due to rounding

STUDENTS MASTERING OBJECTIVES BY GOAL: PERCENTAGES AND NUMBERS

Grade 8 Inventory

Goal	Grade Level of Objectives						Avg.* % by Goal	Duplicated Total No.
	7		8		9			
	%	No.	%	No.	%	No.		
A			18.3	64			18.3	64
B								
C	69.0	241					69.0	241
D	36.3	127	25.2	88	53.5	187	38.3	402
E			26.6	93			26.6	93
F			11.1	39			11.1	39
G			11.7	41			11.7	41
H	51.0	178					51.0	178
I	47.2	165			51.0	178	49.1	343
J			8.0	28	18.3	64	13.1	92
K	37.2	130	11.1	39	34.6	121	27.6	290
L			36.9	129			36.9	129
M			23.7	83			23.7	83
N	N/A**	N/A**			47.5	166	47.5	166
O	36.1	126					36.1	126
P	27.2	95	12.0	42			19.6	137
Q			25.5	89			25.5	89
R								
Totals		1062		735		716		2513
Avg.	43.4		19.1		40.9		31.3	

781115 CEAMS 8FT (n = 349)

* "Avg." column not additive, due to rounding
** Missing due to computer running error

STUDENTS MASTERING OBJECTIVES BY GOAL: PERCENTAGES AND NUMBERS

Grade 9 Inventory

Goal	Grade Level of Objectives						Avg.* % by Goal	Duplicated Total No.
	8		9		10			
	%	No.	%	No.	%	No.		
A	54.8	129					54.8	129
B					50.6	119	50.6	119
C			27.2	64			27.2	64
D			14.0	33			14.0	33
E					22.1	52	22.1	52
F	37.4	88					37.4	88
G	34.0	80			34.0	80	34.0	160
H			27.2	64			27.2	64
I			19.1	45			19.1	45
J	47.6	112	11.0	26	29.7	70	29.4	208
K	20.4	48	13.1	31			16.8	79
L					55.7	131	55.7	131
M			21.2	50			21.2	50
N								
O			28.5	67			28.5	67
P	29.3	69	11.9	28			20.6	97
Q								
R			21.7	51			21.7	51
Totals		526		458		452		1437
Avg.	37.2		19.5		38.4		29.1	

781117 CEAMS 9FT (n = 235)

* "Avg." column not additive, due to rounding

STUDENTS MASTERING OBJECTIVES BY GOAL: PERCENTAGES AND NUMBERS

Grade 10 Inventory

Goal	Grade Level of Objectives						Avg.* % by Goal	Duplicated Total No.
	9		10		11			
	%	No.	%	No.	%	No.		
A					29.3	77	29.3	77
B			9.1	24			9.1	24
C					36.6	96	36.6	96
D			13.7	36			13.7	36
E			22.5	59			22.5	59
F			40.4	106			40.4	106
G			19.8	52			19.8	52
H	67.1	176	20.2	53			43.6	229
I	38.5	101	11.8	31			25.2	132
J	46.9	123	48.4	127			47.6	250
K	8.3	22					8.3	22
L			11.4	30			11.4	30
M					25.5	67	25.5	67
N	55.3	145			45.8	120	50.6	265
O					42.7	112	42.7	112
P			8.0	21	58.0	152	33.0	173
Q								
R	33.2	87					33.2	87
Totals		654		539		724		1817
Avg.	41.6		20.5		39.6		31.5	

781117 CEAMS 10FT (n = 262)

* "Avg." column not additive, due to rounding

STUDENTS MASTERING OBJECTIVES BY GOAL: PERCENTAGES AND NUMBERS

Grade 11 Inventory

Goal	Grade Level of Objectives						Avg.* % by Goal	Duplicated Total No.
	10		11		12			
	%	No.	%	No.	%	No.		
A			73.0	260			73.0	260
B	41.8	149			67.6	241	54.7	390
C			23.5	84			23.5	84
D	51.6	184			32.3	115	41.9	299
E								
F								
G	14.8	53			30.3	108	22.5	161
H			21.3	76			21.3	76
I	22.4	80					22.4	80
J			19.9	71			19.9	71
K			9.2	33			9.2	33
L								
M			21.6	77			21.6	77
N			2.5	9			2.5	9
O			6.4	23			6.4	23
P	4.7	17	18.5	66	48.3	172	23.8	255
Q			32.0	114			32.0	114
R								
Totals		483		813		636		1932
Avg.	27.0		22.7		44.6		28.5	

781115 CEAMS 11FT (n = 356)

* "Avg." column not additive, due to rounding

STUDENTS MASTERING OBJECTIVES BY GOAL: PERCENTAGES AND NUMBERS

Grade 12 Inventory

Goal	Grade Level of Objectives						Avg.* % by Goal	Duplicated Total No.
	11		12		N/A			
	%	No.	%	No.	%	No.		
A	7.3	16					7.3	16
B			29.4	64			29.4	64
C								
D			20.2	44			20.2	44
E								
F			10.1	22			10.1	22
G			19.3	42			19.3	42
H	20.2	44	18.4	40			19.3	84
I								
J	19.3	42					19.3	42
K			3.2	7			3.2	7
L			9.2	20			9.2	20
M								
N	29.4	64					29.4	64
O	32.2	70	17.5	38			24.8	108
P	47.9	104	59.4	129			53.6	233
Q	14.2	31					14.2	31
R			25.8	56			25.8	56
Totals		371		462		N/A		833
Avg.	24.4		21.2		N/A		22.5	

781117 CEAMS 12FT (n = 217)

* "Avg." column not additive, due to rounding

APPENDIX O

Results by School

RESULTS BY SCHOOL

Contents

Exhibit 9 -- Numbers and Percentages of Students Mastering Objectives, by School: a photocopy of a printout summary from program "Mastery," which displays the numbers and percentages of students at one school (here, coded "school 57") who mastered each objective of the inventory at one grade level

Exhibits 10 -- Student Performance on Items and Objectives, by School: a photocopy of two summaries from the program "Summary and Gain," which display the numbers and percentages of items correct and objectives mastered for the students at one school (coded "school 57") and at all schools where the inventory was administered (coded schools 51, 53, 54, 55, 56, and 57)

CRITERION-REFERENCE TESTING — M A S T E R Y — TTCR90

TEST 507 DIST 00 SCHOOL 57 GRADE TEACHER PERIOD DATES- PRETEST 11/14/78 POSTTEST / /

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GRADE			B7-GRPS&PRBS		C7-GVN-OUTCM		D7-FCT-DECSN		E7-EXPRS-VAL		H7-PRS-CHAR-		I7-RQD-TRNG-		J7-NEEDS&SCH		K7-IMED-RWD					
OBJ/CON	ST. MAST	PERCENT	29.0		37.2		17.4		11.6		39.5		11.6		52.3		20.9					
PRE	86 POST	TOTAL	25	0	32	0	15	0	10	0	34	0	10	0	45	0	18	0				
GRADE			N7-INDUSTRS-		O7-POS-INPRS		P7-SEL-OCCUP		C6-CHANGING-		E6-SLF-CNCPT		J6-MOST-SCHL		K6-WRK-SATSF		L6-WRK-RESB					
OBJ/CON	ST. MAST	PERCENT	12.7		10.4		29.0		54.6		41.8		36.0		44.1		40.6					
PRE	86 POST	TOTAL	11	0	9	0	25	0	47	0	36	0	31	0	38	0	35	0				
GRADE			O6-PRSL-PRBS		A8-COM-CHAR-		D8-SEL-ALTS-		F8-VAL-CONFL		G8-WRK-CHAR-											
OBJ/CON	ST. MAST	PERCENT	33.7		61.6		38.3		26.7		26.7											
PRE	86 POST	TOTAL	29	0	53	0	33	0	23	0	23	0	0	0	0	0	0	0				

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CRO3 CRITERION-REFERENCE TESTING S U M M A R Y AND G A I N OBJECTIVE/ITEMS SCHOOL

TEST 507 DIST 00 SCHOOL 57 GRADE TEACHER PERIOD PRETEST 11/14/78 POSTTEST / / PAGE 1

			MEAN OF INDIVIDUAL ITEMS								MEAN GAIN				MEAN ON OBJECTIVE CONCEPT					
			PRETEST				POSTTEST								PRETEST			POSTTEST		
	PRE	POS	RIGHT		WRONG		RIGHT		WRONG		INDIVIDUAL ITEMS		OBJECTIVE/CONCP		MASTY	NO MASTERY		MASTY	NO MASTERY	
	#	#	%	TOT	TOT	N-A	%	TOT	TOT	N-A	%COR	%POSS	TOT	#	MEAN	MEAN	N-A	MEAN	MEAN	N-A
7	86		46.5	15.3	17.5	.1									6.7	14.2				

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CRO3 CRITERION-REFERENCE TESTING S U M M A R Y AND G A I N OBJECTIVE/ITEMS DIST8

TEST 507 DIST 00 SCHOOL GRADE 7 TEACHER PERIOD PRETEST 11/14/78 POSTTEST / / PAGE 1

			MEAN OF INDIVIDUAL ITEMS								MEAN GAIN				MEAN ON OBJECTIVE CONCEPT					
			PRETEST				POSTTEST								PRETEST			POSTTEST		
	PRE	POS	RIGHT		WRONG		RIGHT		WRONG		INDIVIDUAL ITEMS		OBJECTIVE/CONCP		MASTY	NO MASTERY		MASTY	NO MASTERY	
	#	#	%	TOT	TOT	N-A	%	TOT	TOT	N-A	%COR	%POSS	TOT	#	MEAN	MEAN	N-A	MEAN	MEAN	N-A
51	28		47.4	15.6	17.1	.1									6.8	14.1				
53	29		48.5	16.0	16.2	.7									7.1	13.8				
54	24		41.7	13.7	19.1										5.8	15.1				
55	49		52.8	17.4	15.1	.3									8.2	12.7				
56	31		40.7	13.4	19.3	.2									5.9	15.0				
57	86		46.5	15.3	17.5	.1									6.7	14.2				

APPENDIX P

Results by District

RESULTS FOR DISTRICT

Contents

Exhibit 11 -- "Percentages of Students Who Mastered Objectives by Goal and Inventory," a chart of overall percentage of mastery results, by the following parameters:

- By inventory, both for each grade level of objective within the inventory and for all of the objectives of the inventory (rows)
- By objective (each cell matrix containing a value)
- By goal (totals of columns headed by letter codes for the goals)

Exhibit 12 -- "Duplicated Number of Students Who Mastered Objectives, by Goal and Grade Level," displaying this information in the same format used in Exhibit 11, above

PERCENTAGES OF STUDENTS WHO MASTERED OBJECTIVES BY GOAL AND INVENTORY

Inventories for Grades K-6

Grade Levels		Goal																	Averages*	
Inventory	Obj.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	Grade	Inventory
K (n = 201)	N/A																			N/A	59.8%
	K	64.1				73.6		74.6		69.1			93.5	22.8		61.1				65.5	
	1													19.4						19.4	
1 (n = 196)	K																			N/A	70.8
	1			55.1			66.8			54.0		76.0		84.6	72.9		71.4		74.4	69.4	
	2				81.6															81.6	
2 (n = 194)	1																87.1			87.1	44.8
	2	29.8			30.9			44.3			17.0		31.9		32.9	76.2		34.0		37.1	
	3													64.4						64.4	
3 (n = 344)	2				34.8						39.5		48.2							40.8	39.0
	3		29.6			43.8			33.4			27.3		31.1	64.2	52.3			20.0	37.7	
	4			63.9						43.6	14.8									40.7	
4 (n = 280)	3								55.0			56.0								55.5	34.4
	4	26.4		11.7				15.7		43.9	27.1				37.1	42.1	25.3	36.0		29.5	
	5				55.3														15.3	35.3	
5 (n = 251)	4			49.4				19.1												34.2	31.2
	5		31.0		44.6		21.9		24.7			37.0	25.4	41.8	15.9			11.5	31.0	28.5	
	6										25.4	58.1								41.8	
6 (n = 379)	5						21.6					19.2		18.9	17.6					19.3	34.8
	6			39.8		46.7		6.5	13.1		35.0	76.5	43.5			40.6	3.1		14.2	31.9	
	7		73.6						44.8	38.2	49.3					59.3				53.0	
Averages: Grades K-6		40.1	44.7	44.0	49.4	54.7	36.8	32.0	34.2	49.8	29.7	50.0	48.5	40.4	40.1	55.3	46.7	27.2	31.0	42.0%	

781115 CEAMS K-6 FT

* "Averages" column not additive, due to rounding

PERCENTAGES OF STUDENTS WHO MASTERED OBJECTIVES BY GOAL AND INVENTORY

Inventories for Grades 7-12 and Overall Averages

Grade Levels		Goal																		Averages*	
Inventory	Obj.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	Grade	Inventory
7 (n = 247)	6			54.2		48.9					44.5	52.2	42.9			35.2				46.3	32.9
	7		29.1	40.8	12.9	10.1			32.3	12.9	48.5	17.8			12.1	11.3	23.8			22.9	
	8	61.1			45.3		25.9	29.1												40.4	
8 (n = 292)	7			69.0	36.3				51.0	47.2		37.2			N/A**	36.1	27.2			43.4	31.3
	8	18.3			25.2	26.6	11.1	11.7			8.0	11.1	36.9	23.7			12.0	25.5		19.1	
	9				53.5					51.0	18.3	34.6			47.5					40.9	
9 (n = 235)	8	54.8					37.4	34.0			47.6	20.4					29.3			37.2	29.1
	9			27.2	14.0				27.2	19.1	11.0	13.1		21.2		28.5	11.9		21.7	19.5	
	10		50.6			22.1		34.0			29.7		55.7							38.4	
10 (n = 262)	9								67.1	38.5	46.9	8.3			55.3				33.2	41.6	31.5
	10		9.1		13.7	22.5	40.4	19.8	20.2	11.8	48.4		11.4				8.0			20.5	
	11	29.3		36.6										25.5	45.8	42.7	58.0			39.6	
11 (n = 357)	10		41.8		51.6			14.8		22.4							4.7			27.0	28.5
	11	73.0		23.5					21.3		19.9	9.2		21.6	2.5	6.4	18.5	32.0		22.7	
	12		67.6		32.3			30.3									48.3			44.6	
12 (n = 217)	11	7.3							20.2		19.3				29.4	32.2	47.9	14.2		24.4	22.5
	12		29.4		20.2		10.1	19.3	18.4			3.2	9.2			17.5	59.4		25.8	21.2	
	N/A																			N/A	
Averages: Grades 7-12		40.6	37.9	41.9	30.5	26.0	25.0	24.1	32.2	29.0	31.1	20.7	31.2	23.0	32.1	26.2	29.1	23.9	26.9	29.6%	
Averages: All Grades		40.4	40.2	42.8	36.8	36.8	29.4	27.2	33.0	37.6	30.6	32.8	39.9	34.1	36.1	38.7	33.5	25.5	29.4	34.7%	

781115 CEAMS K-12FT

* "Averages" column not additive, due to rounding

DUPLICATED NUMBER OF STUDENTS WHO MASTERED OBJECTIVES, BY GOAL AND GRADE LEVEL

Inventories for Grades K-6

Grade Levels		Goal																		Totals	
Inventory	Obj.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	Grade	Inventory
K (n = 201)	N/A																			N/A	962
	K	129				148		150		139			188	46		123				923	
	1													39						39	
1 (n = 196)	K																			N/A	1,249
	1			108			131			106		149		166	143		140		146	1,089	
	2				160															160	
2 (n = 194)	1																169			169	871
	2	58			60			86			33		62		64	148		66		577	
	3													125						125	
3 (n = 344)	2				120						136		166							422	1,882
	3		102			151			115			94		107	221	180			69	1,039	
	4			220						150	51									421	
4 (n = 280)	3								154			157								311	1,253
	4	74		33				44		123	76				104	118	71	101		744	
	5				155														43	198	
5 (n = 251)	4			124				48												172	1,098
	5		78		112		55		62			93	64	105	40			29	78	716	
	6										64	146								210	
6 (n = 379)	5						82					73		72	67					294	2,511
	6			151		177		25	50		133	290	165			154	12		54	1,211	
	7		279						170	145	187					225				1,006	
Subtotals Grades K-6 (n = 1845)		261	459	636	607	476	268	353	551	663	680	1002	645	660	639	948	392	196	390	9,826	

DUPLICATED NUMBER OF STUDENTS WHO MASTERED OBJECTIVES, BY GOAL AND GRADE LEVEL

Inventories for Grades 7-12 and Overall Totals

Grade Levels		Goal																	Totals	
Inventory	Obj.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	Grade	Inventory
7 (n = 247)	6			134		121					110	129	106			87				687	1,709
	7		72	101	32	25			80	32	120	44			30	28	59			623	
	8	151			112		64	72												399	
8 (n = 292)	7			241	127				178	165		130			N/A*	126	95			1,062	2,513
	8	64			88	93	39	41			28	39	129	83			42	89		735	
	9				187					178	64	121			166					716	
9 (n = 235)	8	129					88	80			112	48					69			526	1,437
	9			64	33				64	45	26	31		50		67	28		51	459	
	10		119			52		80			70		131							452	
10 (n = 262)	9								176	101	123	22			145				87	654	1,817
	10		24		36	59	106	52	53	31	127		30				21			539	
	11	77		96										67	120	112	152			624	
11 (n = 357)	10		149		184			53		80							17			483	1,932
	11	260		84					76		71	33		77	9	23	66	114		813	
	12		241		115			108									172			636	
12 (n = 217)	11	16							44		42				64	70	104	31		371	833
	12		64		44		22	42	40			7	20			38	129		56	462	
	N/A																			N/A	
Subtotals Grades 7-12 (n = 1,610)		697	669	720	958	350	319	528	711	632	893	604	416	277	534	551	954	234	194	10,241	
Totals All Grades (n = 3,455)		958	1128	1356	1565	826	587	881	1262	1295	1573	1606	1061	937	1173	1499	1346	430	584	20,067	